Access DB# 61989

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Joe Weiss Examiner #: 25067 Date: 5/10/02
Art Unit: 3761 Phone Number 305-0323 Serial Number: 09/652001
Mail Box and Bldg/Room Location: 3810/3032 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

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Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Methods and Apparatus For Respiratory Therapy

Inventors (please provide full names): _____

Earliest Priority Filing Date: _____

***For Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.**

Uses Gases / Gas Compositions)
Compositions containing
- Hydrogen, methane, ethane, propane acetylene
- Free Radical generation
Oxygen

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STAFF USE ONLY	Type of Search	Vendors and cost where applicable
Searcher: JEANNE HORRIGAN	NA Sequence (#)	STN
Searcher Phone #: 305-5934	AA Sequence (#)	Dialog ✓
Searcher Location: CPK 2 2C05	Structure (#)	Questel/Orbit
Date Searcher Picked Up: 5/13	Bibliographic ✓	Dr.Link
Date Completed: 5/14	Litigation	Lexis/Nexis
Searcher Prep & Review Time: 325	Fulltext	Sequence Systems
Clerical Prep Time:	Patent Family	WWW/Internet ✓ (limited search on Net)
Online Time: 95	Other	Other (specify)

PTO-1590 (1-2000)

March 14, 2002

TO: Joe Weiss, Art Unit 3761
CP2, Room 3-B-10

FROM: Jeanne Horrigan, EIC-3700

SUBJECT: Search Results for Serial #09/652001

Attached are the search results for the "System for Providing Protection from Reactive Oxygen Species," including results of an inventor search in foreign patent databases, and prior art searches in foreign patent, medical, chemical, environmental, and toxicological non-patent databases.

The results are in two sections: one section contains abstracts and bibliographic citations; the other has titles only. (I did not think these titles sounded as relevant as the ones in the abstracts section.) In the abstracts & bibliographic citations section, a row of asterisks marks the end of a search, including the search strategy, in a particular set of databases and the beginning of a new search in a different set of databases.

I tagged the items that seemed to me to be most relevant, but **I suggest that you review all of the results**.

Also attached is a "*Search Results Feedback Form*." Your feedback will help enhance our search services.

I hope these results are useful. Please let me know if you would like me to expand or modify the search or if you have any questions.

See also the book reference - we can purchase a borrow this book for you if you want.

Jeanne

3/14/02

Mr. Weiss,

During a search for a different examiner on a different subject, I found the attached article & thought it might be relevant to your case (Serial 09/652001: "System for Providing Protection from Reactive Oxygen Species"

Jeanne Horrigan
EIC 3700
CP2, 2C08

32/9/4 (Item 4 from file: 98)
DIALOG(R)File 98:General Sci Abs/Full-Text

03778712 H.W. WILSON RECORD NUMBER: BGSA98028712 (THIS IS THE FULLTEXT)
Reproducibility of the acetylene rebreathe technique for determining cardiac output.
Warburton, Darren E. R
Gledhill, Norman; Jamnik, Veronica
Medicine and Science in Sports and Exercise (Med Sci Sports Exercise) v. 30 no6 (June 1998) p. 952-7
SPECIAL FEATURES: bibl il ISSN: 0195-9131
LANGUAGE: English
COUNTRY OF PUBLICATION: United States
RECORD TYPE: Abstract; Fulltext RECORD STATUS: Corrected or revised record
WORD COUNT: 4510
ABSTRACT: A study examined the reproducibility of the acetylene rebreathe technique for determining cardiac output. Participants were nine elite male endurance cyclists who performed a modified acetylene rebreathe maneuver during incremental exercise on four repeat test days. The results revealed no significant differences in determinations of cardiac output at the same submaximal heart rates on four separate test days. Therefore, it can be concluded that, in normal healthy participants, **the acetylene rebreathe maneuver can provide noninvasive, simple, and valid determinations of cardiac output throughout incremental exercise to maximum.**
TEXT:

Key Words: METHODS, TEST-RETEST RELIABILITY, INCREMENTAL EXERCISE, MAXIMAL EXERCISE, CYCLISTS

Cardiac output (Q) is an extremely important measurement of cardiovascular function both at rest and during exercise. The gold standard techniques for measuring Q are the direct Fick method employing cardiac catheterization and the dye/thermo-dilution technique employing central venous catheterization (6-8,10,13,15). However, because of the inherent risks of the instrumentation, it is difficult to justify the use of these invasive measures with healthy participants. Also, the associated procedures are complicated and relatively inaccessible (27). Therefore, a number of indirect techniques have been developed, and the accepted indirect method for determining Q throughout incremental to maximum exercise is the acetylene rebreathe technique (12,17,21,22,28,31).

The acetylene rebreathe procedure was originally described by Grollman (14), and although the principle underlying the technique remains the same, the methodology has undergone significant modifications (28,31). The transport of a gas in blood is determined by its diffusivity and solubility. Acetylene diffuses rapidly from the lung into the pulmonary capillaries, and it is highly soluble in blood. In addition, it does not bind with hemoglobin. Therefore, its removal from the lungs is limited by the blood flow through the pulmonary capillaries (Qc), and this characteristic is used to determine Qc and therefore to estimate Q.

The acetylene rebreathe technique has been validated against both the direct Fick technique and the dye/thermodilution technique (1,17,28,31,32) and has been shown to provide reasonably accurate estimates of Q throughout incremental to maximum exercise (12,17,21,26,28). **In the present investigation, the modified acetylene rebreathe technique described by Smyth et al. (28) has been further refined to allow for highly reproducible determinations of Q both within and across repeated test days.**

METHODS

Nine male elite endurance-trained cyclists participated in this investigation with informed consent and approval of the Human Participants

Committee. The characteristics of the participants are summarized in Table 1 (VO2max range = 66.7 to 74.7 mlkg-1min-1). Using elite athletes ensured consistency of peak volitional effort when determining maximal Q. Throughout the investigation all participants were in the maintenance phase of their training regimen.

The measurements of Q were conducted on four repeat test days each separated by at least seven days (Test 1, Test 2, Test 3, and Test 4). Before these four test days, the participants underwent two familiarization sessions during which they were accommodated to incremental cycle ergometer exercise and to all testing procedures. In particular, the rebreathing maneuver employed in the measurement of Q was practiced by the participants to avoid the possibility of a learning effect confounding the results. The learning effect has been shown to significantly reduce the variability of the acetylene rebreathe technique (12,20,27,28). Also at this time, the VO2max of the participants was determined employing multi-stage work rates to maximum with increments of [similar]5 mLkg-1min-1 (30). To ensure that participants achieved VO2max, following the incremental exercise test they rested for 1 min and then performed a supramaximal work rate with a requirement of [similar]5 mLkg-1min-1 beyond their volitional peak work rate. The work rates that elicited the heart rates and VO2 levels to be used in the staged exercise protocol on the subsequent testing days were also determined at this time. In addition, blood volume was measured using Evans blue dye employing a standard laboratory dilution technique (5). The absence of changes in blood volume among the four testing days was confirmed by measuring hemoglobin concentration plus hematocrit and employing the principle of mass balance (4).

During the four testing days, Q was measured at rest and at predetermined target heart rates (HR); 110, 130, 150, 170 ([plus or minus] 1) beatsmin-1 and max. The **acetylene rebreathe technique used in this investigation is a modification of the procedure originally described by Grollman (14) and adapted for use with a mass spectrometer (28,31). A pneumatically controlled three-way breathing valve (4285 Series, Hans Rudolph Inc., Kansas City, MO) was suspended above the cycle ergometer with a rubber mouthpiece attached. A 3-L latex rebreathing bag (Hans Rudolph) hung from the expiratory port. A 6-L latex reservoir bag was suspended in a horizontal position by an attachment above the cycle ergometer. The large end of the reservoir bag was attached to the inspiratory port and the small end was attached by a short hose to the cylinder containing the rebreathe gas mixture. It is very important that the connection between the reservoir bag and the breathing valve cannot be collapsed during the rebreathe maneuver. The breathing valve was connected to the mass spectrometer (TC Centronics Ltd., Model 200 MGA, Croydon, UK) via a small bore end-tidal sampling line, allowing for the continuous monitoring of alveolar gas concentrations throughout the rebreathe maneuver.**

The rebreathe gas contained 40[percent] oxygen (O2), 1[percent] acetylene (C2H2), and balance nitrogen (N2). The concentration of O2 was set at this level since it was observed previously that during maximal exercise the fractional concentration of O2 falls to an unacceptable level if the rebreathe mixture contains a lower O2 concentration (28). Helium can also be included in the rebreathe mixture to monitor the initial gas equilibration in the lung-bag system, which provides a standard time for initiating the analysis of C2H2 removal (14,28). However, it was shown previously that equilibration of the gas in the lung-bag system is attained by the third breath of a rebreathe maneuver (14,28,31), and therefore helium is not required in the mixture.

Two acetylene rebreathe maneuvers were performed at each target HR immediately following the open circuit measurement of VO2 (30). During

the maximal work rate, Q was determined before the measurement of VO2, as this reduces the possibility of fatigue limiting the participant's ability to complete the rebreathe maneuver at the highest work rate. Each rebreathe was separated by at least 45 s to allow complete washout of the C2H2, as confirmed by end-tidal monitoring. To initiate the rebreathe, the participant, wearing nose-clips, was instructed to exhale to residual volume and insert the mouthpiece. An experimenter than activated the pneumatic switching device to open the breathing valve to the gas mixture, and the participant performed a maximal inspiration. During inhalation, the reservoir bag was continuously refilled to provide a slight positive pressure which ensured optimal filling of the participant's lungs. This is a key adaptation to the acetylene rebreathe maneuver, since we have observed that without doing so the participants do not derive sufficient amounts of the gas mixture during maximal exercise. Upon completion of the maximal inspiration, an experimenter again activated the switching device to open the expiratory port of the breathing valve. The participant then rebreathed the gas mixture into and out of the 3-L rebreathe bag at a rate of one breath per second for an average of 10 breaths at rest and seven breaths during heavy exercise (to avoid recirculation). This provided eight breaths at rest and five breaths during heavy exercise following equilibration of the lung-bag system for analysis of the C2H2 decay curves. The participant was instructed to completely empty the 3-L bag during each inhalation and exhalation.

By using HR as the criterion for equalizing work rate it was possible to quickly accomplish each incremental cycle resistance setting, then make minor adjustments to achieve the exact HR at each stage on all test days. This minimized the variability in VO2 and Q at each work rate; therefore it was possible to examine the reproducibility of the measurement technique without the confounding effect of differences in the real Q.

The mass spectrometer was calibrated before and after each Q measurement with a two-point calibration using gases of known concentrations which bracketed the range of alveolar gas concentrations. Alveolar gas in the lung-bag system was continuously sampled and analyzed by the mass spectrometer, and the resultant gas decay curves were recorded. Two separate rebreathe curves were determined at each target HR to examine the variability of repeat Q determinations at the same work rate, and the mean of these two determinations was used to examine variability of Q across repeat test days. Reduction of the mass spectrometer gas decay tracings was accomplished manually by visual inspection. Two points from each of the C2H2 decay curves, corresponding to the same time interval on the rebreathe, were selected to calculate arterial-mixed venous oxygen difference (a-vDO2) according to the formula:

$$a - vDO2 = (O2)diff x\ C2H2Pb - 470.00974 / (C2H2)diff$$

where O2 diff is the amount of oxygen absorbed during the time of the sampling, xC2H2 is the average concentration of acetylene during the time of the sampling, Pb is barometric pressure, 47 is the assumed vapor pressure of water in the lungs (mm Hg), 0.00974 is the solubility of acetylene gas, and (C2H2 diff is the amount of acetylene absorbed per liter of blood during the time of sampling.

This a-vDO2 and the measured VO2 were then used to calculate Q according to the Fick equation. The reduction of these data can also be accomplished by computer.

Measures of Q between test days were compared for reproducibility by a two-way ANOVA (four levels of condition and six levels of HR) and for the possibility of systematic bias using the approach of Bland and Altman (3). The level of significance was set a priori at $P < 0.05$.

RESULTS

The coefficients of variation for the measurements of Q, expressed as the standard deviation of the difference between duplicate measurements were 10.2[percent] at rest, 4.8[percent] at 110 beatsmin-1, 4.5[percent] at 130 beatsmin-1, 2.8[percent] at 150 beatsmin-1, 3.8[percent] at 170 beatsmin-1, and 4.8[percent] at HRmax. The coefficients of variation for the measurement of Q across the four repeat test days, expressed as the standard deviation of the difference between quadruple measurements were 12.2[percent] at rest, 8.3[percent] at 110 beatsmin-1, 5.5[percent] at 130 beatsmin-1, 4.3[percent] at 150 beatsmin-1, 4.1[percent] at 170 beatsmin-1 and 2.6[percent] at HRmax.

In Figure 1, Q is represented as a function of HR for each condition along with the line and equation for the regression. This illustration highlights the reproducibility of Q at staged exercise HR among experimental days. The equation for the regression line during exercise is; Q (Lmin-1) = -17.24 + 0.24 (HR (beatsmin-1)). As expected, a significant difference existed between stages in the incremental work rates. Further indication of the reproducibility of Q can be seen in Figure 2 in which Q is plotted as a function of VO2. This figure illustrates a tight adherence of Q around the regression line for all conditions. The equation for the regression line during exercise is Q (Lmin-1) = 4.6 + 5.39 VO2 (Lmin-1) .

To examine the possibility of systematic bias in Q determinations on repeat test days, a modification of the Bland and Altman (3) procedure was employed. Figure 3 illustrates the difference between individual measurements of Q and the mean of all four repeat measurements of Q from the four test days at each incremental Q. Visual analysis indicates there is no evidence of systematic bias in Q determinations among test days.

DISCUSSION

The results of this investigation illustrate a very high reproducibility of the measurement of Q by the acetylene rebreathe technique during incremental exercise to maximum. Each rebreathe was performed in duplicate at rest and at each incremental exercise stage. The coefficients of variation for duplicate measurements on the same day ranged from 10.2[percent] at rest to 2.8[percent] at 150 beatsmin-1, with an overall mean of 4.1[percent] during exercise. The difference between the variability of Q determinations at rest versus exercise may simply reflect the physiological fluctuations in Q at rest both within and between test days. In addition, however, the acetylene rebreathe technique is known to be less accurate at rest because of its insensitivity to anatomical shunt and the artificial elevation of a-vDO2 brought about by the rebreathing maneuver (28,32). Of major importance to exercise physiologists is the coefficient of variation between duplicate measurements of Q during maximal exercise (4.8[percent]). The variability is well within the limits reported by other investigators using both noninvasive techniques and direct measures of Q during submaximal exercise, and the acetylene rebreathe technique is the only indirect technique available for measuring Q during maximal exercise. Table 2 contains a summary of the coefficients of variation reported by other investigators who examined repeat measurements of Q on the same day by various methods. The coefficients of variation for the acetylene rebreathe maneuver reported in the literature are an average of 15[percent] at rest and 5[percent] during exercise.

The low variability for measurements of Q conducted throughout incremental exercise at the same HR on repeat test days also highlights the reproducibility of this method. In particular, the coefficient of variation of 2.6[percent] found during maximal exercise is indicative of the high reproducibility of this method from day to day. It is also important to draw attention to the homogeneity of VO2max measurements achieved by using

elite cyclists as participants and by including a supramaximal work rate in the exercise protocol (Fig. 2). Further support for the accuracy of the acetylene rebreathe technique is provided by the modified Bland and Altman (3) analysis, which illustrates that in addition to the low variability between measurements of Q over the four test days, there was no systematic error above or below the mean.

The use of the acetylene rebreathe technique during maximal exercise is of key interest to exercise physiologists. Previous investigators have indicated that the acetylene rebreathe maneuver is difficult to perform during maximal exercise. Some authors have therefore elected to estimate maximal Q by extrapolating from the submaximal Q to VO2 regression line (25). However, in a series of investigations, Gledhill et al. (12,20,21) have demonstrated that it is possible to achieve highly reproducible determinations of Q during maximal exercise. The present investigation has provided further refinement to the acetylene rebreathe methodology to allow for greater accuracy in the determination of Q throughout incremental exercise to maximum. A key enhancement to the acetylene rebreathe maneuver is to maintain a positive filling pressure throughout inhalation of the rebreathe gas by continuously refilling the rebreathe bag during the initial inspiration. This ensures optimal filling of the participant's lungs even during maximal exercise. Also of great importance for the determination of maximal Q is the use of a supramaximal work rate beyond the volitional peak work rate to ensure the attainment of VO2max.

Limitations of the method still include its insensitivity to anatomical shunt and greater variability in participants with pulmonary abnormalities. However, in normal healthy participants these limitations can be overlooked, and hence the acetylene rebreathe maneuver can provide noninvasive, simple, and valid determinations of Q throughout incremental exercise to maximum.

Added material

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Submitted for publication January 1997.

Accepted for publication December 1997.

TABLE 1. Participant characteristics (N = 9).

	Blood Volume (mL)	Omax (Lmin-1)
X +/- SEM	6648 +/- 310	31.0 +/- 0.4

TABLE 2. Summary of coefficients of variation reported in the literature for Q determination at rest and during exercise.

PCO2, direct Fick using blood PCO2. # Results calculated from repeat determinations on the same participant.

FOOTNOTES

+ Values refer to a-vDO2.

++ Corrected for systematic differences between the first and second measurements. References: 6. Clausen, J. P., O. A. Larsen, and J. Trap-Jensen. Cardiac output in middle-aged patients determined with CO2 rebreathing. J. Appl. Physiol. 28:337-342, 1970. 7. Cournand, A., R. L. Riley, E. S. Burd, E. Baldwin, and D. W. Richards. Measurement of the cardiac output in man, using the technique of catheterization of the right auricle or ventricle. J. Clin. Invest. 24:106-116, 1945. 11. Ferguson, R. J., J. A. Faulkner, S. Julius, and J. Conway. Comparison of cardiac output determined by CO2 rebreathing and dye-dilution methods. J. Appl. Physiol. 25:450-454, 1968. 16. Holmgren, A. and B. Pernow. The reproducibility of

cardiac output determination by the direct Fick method during muscular work. Scan. J. Clin. Invest. 12:224-227, 1960. 19. Kopelman, H. and G. J. Lee. The intrathoracic blood volume in mitral stenosis and left ventricular failure. Clin. Sci. 10:383-403, 1951. 24. Richardson, D. W., E. M. Wyso, A. M. Hecht, and D. P. Fitzpatrick. Value of continuous photoelectric recording of dye curves in the estimation of cardiac output. Circulation 20:1111-1117, 1959. 26. Saltin, B. Circulatory response to submaximal and maximal exercise after thermal dehydration. J. Appl. Physiol. 19:1125-1132, 1964. 27. Simmons, R. and R. J. Shephard. Measurements of cardiac output in maximum exercise. Application of an acetylene rebreathing method to arm and leg exercise. Int. Z. Angew. Physiol. 29:159-172, 1971. 28. Smyth, R. J., N. Gledhill, A. B. Froese, and V. K. Jamnik. Validation of noninvasive maximal cardiac output measurement. Med. Sci. Sports Exerc. 16:512-515, 1984. 32. Werko, L., S. Berseus, and H. Lagerlof. A comparison of the direct Fick and the Grollman methods for determination of the cardiac output in man. J. Clin. Invest. 29:516-520, 1949. 33. Wigle, R. D., P. D. Hamilton, and J. O. Parker. Measurement of cardiac output by carbon dioxide rebreathing. Can. J. Appl. Sport Sci. 4:135-139, 1979. 2 Becklake, M. R., C. J. Varvis, L. D. Pengelly, S. Kenning, M. McGregor, and D. V. Bates. Measurement of pulmonary blood flow during exercise using nitrous oxide. J. Appl. Physiol. 17:579-586, 1962. 9. Ekblom, B., P. O. Astrand, B. Saltin, J. Stenberg, and B. Wallstrom. Effect of training on circulatory response to exercise. J. Appl. Physiol. 24:518-528, 1968. 12. Gledhill, N., D. Cox, and R. Jamnik. Endurance athletes' stroke volume does not plateau: major advantage is diastolic function. Med. Sci. Sports Exerc. 26:1116-1121, 1994. 18. Knowlton, R. G. and G. E. Adams. The consistency of carbon dioxide rebreathing as a non-invasive method to determine exercise cardiac output. Ergonomics 17:241-248, 1974. 29. Spina, R. J., T. Ogawa, W. H. Martin, A. R. Coggan, J. O. Holloszy, and A. A. Ehsani. Exercise training prevents decline in stroke volume during exercise in young healthy subjects. J. Appl. Physiol. 72:2458-2462, 1992. 23. Pugh, L. G. C. E. A modified acetylene method for the determination of cardiac output during muscular exercise. Ergonomics 15:323-335, 1972. 34. Zeidifard, E., M. Silverman, and S. Godfrey. Reproducibility of indirect (CO2) Fick method for calculation of cardiac output. J. Appl. Physiol. 33:141-143, 1972. 35. Zeidifard, E., S. Godfrey, and E. E. Davies. Estimation of cardiac output by an N2O rebreathing method in adults and children. J. Appl. Physiol. 41:433-438, 1976.

Figure 1--Cardiac output plotted as a function of heart rate and test conditions along with the regression line for the exercise data. *Significantly different from all lower heart rates ($P < 0.05$). Bars = SEM for both cardiac output and heart rate.

Figure 2--Cardiac output plotted as a function of oxygen consumption and test conditions along with the regression line for the exercise data. * Significantly different from all lower oxygen consumption levels ($P < 0.05$). Bars = SEM for both cardiac output and oxygen consumption.

Figure 3--The difference between each individual cardiac output measurement and the mean of all four repeat cardiac output measurements from the four test days plotted at each incremental cardiac output.

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34. ZEIDIFARD, E., M. SILVERMAN, and S. GODFREY. Reproducibility of indirect (CO2) Fick method for calculation of cardiac output. J. Appl. Physiol. 33:141-143, 1972.

35. ZEIDIFARD, E., S. GODFREY, and E. E. DAVIES. Estimation of cardiac output by an N2O rebreathing method in adults and children. J. Appl. Physiol. 41:433-438, 1976.

DESCRIPTORS:
Cardiac output; Physiology--Methodology; Cycling

TITLES

31/6,K/1 (Item 1 from file: 103)
DIALOG(R)File 103:(c) 2001 Contains copyrighted material. All rts. reserv.
04595942 EDB-00-063978
Title: Modeling heterogeneous and homogeneous reactions in the high-temperature catalytic combustion of methane
Publication Date: 1999
...Abstract: gas phase to the surface of the catalyst, which prevents initiation of the gas-phase free - radical c2048 reactions. (author)
...Broader Terms: FUEL GAS ;

31/6,K/2 (Item 2 from file: 103)
DIALOG(R)File 103:(c) 2001 Contains copyrighted material. All rts. reserv.
04584722 EDB-00-052760
Title: Co-firing natural gas to control gaseous emissions from CFBC
Title: Circulating fluidized bed technology VI. Proceedings
Conference title: 6. international conference on circulating fluidized beds (CFB-6), and exhibition: Fundamentals, systems, applications
Publication Date: 1999
...Abstract: reduction in co-firing natural gas. This is a particularly significant finding suggesting that the free radical destruction processes are not as important in the N[sub 2]O reduction in O...
...Broader Terms: FUEL GAS ;

31/6,K/3 (Item 3 from file: 103)
DIALOG(R)File 103:(c) 2001 Contains copyrighted material. All rts. reserv.
03811678 EDB-95-055446
Title: NO[sub x] and N[sub 2]O in lean-premixed jet-stirred flames
Conference title: 25. international symposium on combustion
Publication Date: Feb 1995
...Abstract: combustion is about threefold higher than for the CH[sub 4] combustion. Furthermore, because the free radical behavior in the CO/H[sub 2] experiments is complex near blowout, a simple correlation...
...Broader Terms: FUEL GAS ;

31/6,K/4 (Item 4 from file: 103)
DIALOG(R)File 103:(c) 2001 Contains copyrighted material. All rts. reserv.
03503634 EDB-93-082509
Title: Catalytic oxidations of methane to methanol
Publication Date: Feb 1993
...Abstract: the void spaces of the packed bed reactors, and that high surface area materials inhibit free - radical reactions. The selectivities of methanol were 30-35% for the catalysts used in this study...
...Broader Terms: FUEL GAS ;

31/6,K/5 (Item 5 from file: 103)
DIALOG(R)File 103:(c) 2001 Contains copyrighted material. All rts. reserv.
03540288 EDB-93-119166
Title: Reactivity of product gases generated in idealized enclosure fire environments
Title: Twenty-fourth symposium (international) on combustion
Conference title: 24. international symposium on combustion
Publication Date: 1992

...Abstract: 1,000 K range. In the lower temperature range HO[sub 2] is the dominant free radical . Uncertainties in rates for reactions involving this species introduce considerable uncertainty into the calculated behaviors. At higher temperatures (1,100--1,300 K) the important free radicals are H atom and OH. Reactions involving these radicals are better characterized than those involving...
...Broader Terms: FUEL GAS ;

31/6,K/6 (Item 6 from file: 34)
DIALOG(R)File 34:(c) 2002 Inst for Sci Info. All rts. reserv.
01878950 Genuine Article#: JJ286 Number of References: 16
Title: HYDROGEN ISOTOPE EXCHANGE-REACTION RATES IN TRITIUM, HYDROGEN AND DEUTERIUM MIXED GASES (Abstract Available)
...Abstract: twenty times larger than ion formation rates by beta radiation. This result suggests that a free radical chain reaction in hydrogen isotopes is occurring.

31/6,K/7 (Item 7 from file: 103)
DIALOG(R)File 103:(c) 2001 Contains copyrighted material. All rts. reserv.
03269784 EDB-92-032541
Title: The flash pyrolysis and methanolysis of biomass (wood) for production of ethylene, benzene and methanol
Conference title: 199. national meeting of the American Chemical Society (ACS)
Publication Date: Feb 1990
...Abstract: for pine, the ratio is 7.5 times higher. The mechanism appears to be a free radical reaction between CH[sub 4] and the pyrolyzed wood. There appears to be no net...
...Broader Terms: FUEL GAS ;

31/6,K/8 (Item 8 from file: 103)
DIALOG(R)File 103:(c) 2001 Contains copyrighted material. All rts. reserv.
02945921 GRA-90-53377; EDB-90-163164; ERA-15-052674
Title: Treatability of contaminated ground water and aquifer solids at town gas sites, using photolytic ozonation and chemical in-situ reclamation. Final report
Publication Date: Aug 1990
...Abstract: environmentally significant concentrations. A chemical in situ treatment method using persulfate as a source of free radicals destroyed organic contaminants that were adsorbed to the aquifer solids. PAHs were reduced by 34...
...Broader Terms: FUEL GAS ;

31/6,K/9 (Item 9 from file: 103)
DIALOG(R)File 103:(c) 2001 Contains copyrighted material. All rts. reserv.
02923327 GB-90-001461; EDB-90-140569
Title: The chemistry of hydrocarbon fuels
Publication Date: 1990
...Abstract: are consequences of the natural processes of formation of these fuels. Reaction mechanisms, such as free radical processes, which are important both in processes of fuel formation and in fuel conversion or...
...Broader Terms: FUEL GAS ;

31/6,K/10 (Item 10 from file: 103)
DIALOG(R)File 103:(c) 2001 Contains copyrighted material. All rts. reserv.

02026776 NOV-87-074774; EDB-87-154731
Title: Laser diagnostics and modelling of natural gas ignition chemistry
Title: Proceedings of the 1986 international gas research conference
Conference title: International gas research conference
Publication Date: 1986
...Abstract: is laser-induced fluorescence, providing sensitive, selective and nonintrusive measurement of the trace species (often free radicals) which are intermediates in the combustion chemistry. A computer model of the complex reaction network...
...Broader Terms: FUEL GAS ;

31/6,K/11 (Item 11 from file: 103)
DIALOG(R)File 103:(c) 2001 Contains copyrighted material. All rts. reserv.
01902082 IEAD-87-031028; ERA-12-013340; EDB-87-029733
Title: Flash pyrolysis of biomass with reactive and non-reactive gas
Publication Date: 1986
...Abstract: for pine the ratio is 7.5 times higher. The mechanism appears to be a free radical reaction between CH4 and the pyrolyzed wood. There appears to be no net production or...
...Broader Terms: FUEL GAS ;

31/6,K/12 (Item 12 from file: 103)
DIALOG(R)File 103:(c) 2001 Contains copyrighted material. All rts. reserv.
01886030 NOV-85-036459; ERA-12-009036; EDB-87-013671
Title: Flash hydropyrolysis and methanolysis of biomass with hydrogen and methane
Title: Hydrogen systems
Conference title: Beijing international symposium on hydrogen systems
Publication Date: 1985
...Abstract: for pine, the ratio is 7.5 times higher. The mechanism appears to be a free radical reaction between CH/sub 4/ and the pyrolyzed wood. There appears to be no net...
...Broader Terms: FUEL GAS ;

31/6,K/13 (Item 13 from file: 103)
DIALOG(R)File 103:(c) 2001 Contains copyrighted material. All rts. reserv.
01557557 ERA-10-020986; EDB-85-064330
Title: Improved energy efficiency by use of the new ultraviolet light radiation paint curing process
Conference title: Intersociety energy conversion engineering conference
Publication Date: Aug 1984
...Abstract: by the U.S. Department of Energy, Office of Industrial Programs, two photoinduced polymerizations, via free radical or cationic mechanisms, were considered in the formulation of UV curable paints. The spectral output...
...Broader Terms: FUEL GAS ;

31/6,K/14 (Item 14 from file: 103)
DIALOG(R)File 103:(c) 2001 Contains copyrighted material. All rts. reserv.
01218485 ERA-08-038412; EDB-83-118527
Title: Thermal auto-ignition of low-heating-value gases by preheating at constant pressure
Conference title: Spring meeting of the Central States Section of the Combustion Institute
Publication Date: 1983
...Abstract: of various low-Btu gas mixtures at constant pressure were

determined theoretically using a detailed free - radical kinetic model. Various compositions, equivalence ratios, initial temperatures and uniform rates of heating were investigated...
...Descriptors: FUEL GAS ;
...Broader Terms: FUEL GAS ;

31/6,K/15 (Item 15 from file: 103)
DIALOG(R)File 103:(c) 2001 Contains copyrighted material. All rts. reserv.
01208929 ERA-08-035116; EDB-83-108968
Title: Toward a unified mechanism for neat-coal and coal-slurry ignition (Lurgi and Wellman-Galusha syngases)
Conference title: Spring meeting of the Central States Section of the Combustion Institute
Publication Date: 1983
...Abstract: ignition in general. It should be pointed out in closing that the incorporation of OH free - radical chemistry in pulverized coal combustion should not be thought of as alchemy. In 1969, Mulcahy...
...Broader Terms: FUEL GAS ;

31/6,K/16 (Item 16 from file: 103)
DIALOG(R)File 103:(c) 2001 Contains copyrighted material. All rts. reserv.
00945650 ERA-07-049247; EDB-82-120504
Title: Two-phase flow calculations incorporating an equation of state
Title: Proceedings sixty-first annual convention, Gas Processors Association
Conference title: 61. annual convention of the Gas Processors Association
Publication Date: 1982
...Abstract: results are obtained by Lockhart-Martinelli if smooth pipes are assumed. 3. The Duns and Ros correlation and the Orkiszewski method predict similar vertical flow pressure drop. 4. Empirical correlations are...
...Broader Terms: FUEL GAS ;

31/6,K/17 (Item 17 from file: 103)
DIALOG(R)File 103:(c) 2001 Contains copyrighted material. All rts. reserv.
00888886 EDB-82-063729
Title: Coal gasification process (Patent)
Publication Date: 26 Jan 1982
Abstract: A process for gasifying coal and other carbonacaeous matter is disclosed which produces fuel gas containing low concentrations of polycyclic aromatic hydrocarbons. In this process the polycyclic aromatic hydrocarbons released...
...partial pressure (obtained by increasing the total pressure in the gasifier) to prevent polymerization of free radicals formed during pyrolysis. A relationship between the temperature, the gas residence time in the gasification...
...Major Descriptors: FUEL GAS -- PRODUCTION

31/6,K/19 (Item 19 from file: 103)
DIALOG(R)File 103:(c) 2001 Contains copyrighted material. All rts. reserv.
00096840 EDB-76-033718
Title: Industrial pyrolysis of cellulosic materials
(Chemical reactions occurring during pyrolysis and analysis of volatile fractions)
Publication Date: 1975
...Abstract: dehydration, condensation of the unsaturated products,

elimination of the substituent and crosslinking of the resulting free radicals , since the initial pyrolytic reactions are heterolytic, the course of the pyrolysis and the yield...
...Major Descriptors: FUEL GAS -- SYNTHESIS

37/6/1 (Item 1 from file: 5)
13510201 BIOSIS NO.: 200200139022
Mitochondrial ROS metabolism: Modulation by uncoupling proteins.
2001

37/6/2 (Item 2 from file: 5)
13246868 BIOSIS NO.: 200100454017
Melatonin protects against oxidative mitochondrial damage induced in rat placenta by ischemia and reperfusion.
2001

37/6/3 (Item 3 from file: 5)
13111410 BIOSIS NO.: 200100318559
In vitro effects of nicotine on mitochondrial respiration and superoxide anion generation.
2001

37/6/4 (Item 4 from file: 5)
13103020 BIOSIS NO.: 200100310169
Normobaric hyperoxic stress in budgerigars: Enzymic antioxidants and lipid peroxidation.
2001

37/6/5 (Item 5 from file: 34)
09563782 Genuine Article#: 419MU Number of References: 57
Title: Cell attachment modulation by radiation from a pulsed light diode (lambda=820 nm) and various chemicals (ABSTRACT AVAILABLE)
Publication date: 20010000

37/6/6 (Item 6 from file: 5)
12867583 BIOSIS NO.: 200100074732
Metabolism-induced free radical activity does not contribute significantly to loss of viability in moist-stored recalcitrant seeds of contrasting species.
2000

37/6/9 (Item 9 from file: 34)
08749283 Genuine Article#: 324YF Number of References: 27
Title: Attenuation of hyperoxia-induced diaphragmatic dysfunction with lidocaine in hamsters (ABSTRACT AVAILABLE)
Publication date: 20000600

37/6/10 (Item 10 from file: 34)
08520486 Genuine Article#: 296JF Number of References: 45
Title: Characterization of synthetic C3a analog peptides on human eosinophils in comparison to the native complement component C3a
Publication date: 20000401

37/6/11 (Item 11 from file: 50)
04007713 CAB Accession Number: 20003026041

Oxygen metabolism in plant/bacteria interactions: characterization of the oxygen uptake response of plant suspension cells.
Publication Year: 2000

37/6/12 (Item 12 from file: 5)
12156872 BIOSIS NO.: 199900451721
Oligoagars elicit a physiological response in Gracilaria conferta (Rhodophyta).
1999

37/6/16 (Item 16 from file: 34)
08029655 Genuine Article#: 238RZ Number of References: 32
Title: Effect of nitric oxide synthase inhibition on hemoglobin-oxygen affinity and lipid peroxidation in rabbits during fever (ABSTRACT AVAILABLE)
Publication date: 19990900

37/6/17 (Item 17 from file: 5)
11693956 BIOSIS NO.: 199800475687
Fatty acids as natural uncouplers preventing generation of O2.- and H2O2 by mitochondria in the resting state.
1998

37/6/18 (Item 18 from file: 5)
11662573 BIOSIS NO.: 199800444304
Inhibitors of the activity of poly (ADP-ribose) synthetase reduce the cell death caused by hydrogen peroxide in human cardiac myoblasts.
1998

37/6/19 (Item 19 from file: 5)
11610810 BIOSIS NO.: 199800392575
Eotaxin-2 activates chemotaxis-related events and release of reactive oxygen species via pertussis toxin-sensitive G proteins in human eosinophils.
1998

37/6/20 (Item 20 from file: 5)
11399532 BIOSIS NO.: 199800180864
Hyperoxia influences mRNA expression of cytokines in cultured human umbilical vein endothelial cells.
1998

37/6/22 (Item 22 from file: 34)
07096087 Genuine Article#: 123RL Number of References: 27
Title: Fatty acids as natural uncouplers preventing generation of O-2(center dot-) and H2O2 by mitochondria in the resting state
Publication date: 19980918

37/6/23 (Item 23 from file: 317)
00049881
Freshly generated stainless steel welding fume induces greater lung inflammation in rats as compared to aged fume.
PUBLICATION DATE: 1 Sep 1998 (980901)

37/6/24 (Item 24 from file: 5)
11443094 BIOSIS NO.: 199800224426
Sensitivity of Ca!2!+ transport of mitochondria to reactive oxygen species.
1997

37/6/25 (Item 25 from file: 5)
11247677 BIOSIS NO.: 199800029009
Therapy and secondary prophylaxis of acute ischemic stroke.
1997

37/6/27 (Item 27 from file: 5)
10924386 BIOSIS NO.: 199799545531
Direct effect of ceramide on the mitochondrial electron transport chain leads to generation of reactive oxygen species: Role of mitochondrial glutathione.
1997

37/6/28 (Item 28 from file: 5)
10899152 BIOSIS NO.: 199799520297
Physiological Society symposium: Impaired endothelial and smooth muscle cell function in oxidative stress: Metabolic and clonogenic consequences of ischaemia-reperfusion insult in solid tumours.
1997

37/6/29 (Item 29 from file: 5)
10843234 BIOSIS NO.: 199799464379
Plasma hypoxanthine levels in ARDS: Implications for oxidative stress, morbidity, and mortality.
1997

37/6/30 (Item 30 from file: 5)
10786772 BIOSIS NO.: 199799407917
Renal antioxidant enzyme mRNA levels are increased in rats with experimental diabetes mellitus.
1997

37/6/31 (Item 31 from file: 73)
07229516 EMBASE No: 1998128857
Sensitivity of Casup 2sup + transport of mitochondria to reactive oxygen species
1997

37/6/33 (Item 33 from file: 34)
05991618 Genuine Article#: XM469 Number of References: 100
Title: Radical approach to the acute respiratory distress syndrome
Publication date: 19970400

37/6/34 (Item 34 from file: 34)
05703182 Genuine Article#: WR348 Number of References: 22
Title: Metabolic and clonogenic consequences of ischaemia-reperfusion insult in solid tumours (ABSTRACT AVAILABLE)
Publication date: 19970300

37/6/35 (Item 35 from file: 5)
10564276 BIOSIS NO.: 199699185421
Human eotaxin represents a potent activator of the respiratory burst of human eosinophils.
1996

37/6/36 (Item 36 from file: 155)
09235707 98050351 PMID: 9388968

[Protective effects of beta-carotene liposome against rat neutrophile membrane damage caused by intra- or extra-cellular reactive oxygen species]
Oct 1996

37/6/37 (Item 37 from file: 73)
06586947 EMBASE No: 1996251572
Accumulation of deletions and point mutations in mitochondrial genome in degenerative diseases
1996

37/6/38 (Item 38 from file: 34)
04570985 Genuine Article#: TT884 Number of References: 34
Title: GLUTATHIONE DEPLETION IN EPITHELIAL LINING FLUID OF LUNG ALLOGRAFT PATIENTS (Abstract Available)

37/6/41 (Item 41 from file: 5)
09724297 BIOSIS NO.: 199598179215
Permeabilization of the inner mitochondrial membrane by Ca-2+ ions is stimulated by t-butyl hydroperoxide and mediated by reactive oxygen species generated by mitochondria.
1995

37/6/43 (Item 43 from file: 34)
05055496 Genuine Article#: TM264 Number of References: 12
Title: EFFECT OF CALCIUM OVERLOAD AND SALVIOL (TANSHINONE) ON THE LIPID-FREE RADICALS GENERATED FROM LIPID-PEROXIDATION OF THE MITOCHONDRIAL-MEMBRANE (Abstract Available)

37/6/44 (Item 44 from file: 34)
04437951 Genuine Article#: TC861 Number of References: 25
Title: EFFECT OF VARYING INSPIRED OXYGEN CONCENTRATION ON DIAPHRAGM GLUTATHIONE METABOLISM GORING LOADED BREATHING (Abstract Available)

37/6/45 (Item 45 from file: 34)
04049161 Genuine Article#: QK517 Number of References: 27
Title: COMPARISON OF THE EFFECTS OF 4 IV ANESTHETIC AGENTS ON POLYMORPHONUCLEAR LEUKOCYTE FUNCTION (Abstract Available)

37/6/46 (Item 46 from file: 5)
09599782 BIOSIS NO.: 199598054700
Inhibitory effect of gabexate mesilate on human neutrophil function.
1994

37/6/47 (Item 47 from file: 5)
09447361 BIOSIS NO.: 199497455731
Transient iron overload with bleomycin detectable iron in the plasma of patients with Adult Respiratory Distress syndrome.
1994

37/6/48 (Item 48 from file: 5)
09352875 BIOSIS NO.: 199497361245
In vivo electron paramagnetic resonance spectroscopy-imaging in experimental oncology: The hope and the reality.
1994

37/6/49 (Item 49 from file: 73)

05956215 EMBASE No: 1994358480
The role of oxygen free radicals from endothelial cells in endotoxin-induced endothelial cell cytotoxicity
1994

37/6/50 (Item 50 from file: 5)
09110118 BIOSIS NO.: 199497118488
Reperfusion injury and exhaled hydrogen peroxide.
1993

37/6/51 (Item 51 from file: 5)
08969027 BIOSIS NO.: 199396120528
Evidence that mitochondrial respiration is a source of potentially toxic oxygen free radicals in intact rabbit hearts subjected to ischemia and reflow.
1993

37/6/53 (Item 53 from file: 73)
05346119 EMBASE No: 1993114204
Hydrogen peroxide in expired breath condensate of patients with acute respiratory failure and with ARDS
1993

37/6/54 (Item 54 from file: 5)
08426145 BIOSIS NO.: 000094133349
INCREASED HYDROGEN PEROXIDE CONCENTRATION IN HUMAN TUMOR CELLS DUE TO A NITROXIDE FREE RADICAL
1992

37/6/55 (Item 55 from file: 5)
08231212 BIOSIS NO.: 000094032176
GENERAL ANESTHESIA AND EXHALED BREATH HYDROGEN PEROXIDE
1992

37/6/56 (Item 56 from file: 35)
01252752 ORDER NO: AAD92-34370
METABOLIC CHARACTERIZATION OF T CELL LYMPHOBLASTOID, JURKAT, IN THE PRESENCE OF RESPIRATION INHIBITORS IN A CONTINUOUS REACTOR (ROTENONE)
Year: 1992

37/6/58 (Item 58 from file: 5)
07250177 BIOSIS NO.: 000090030053
DETECTION OF FREE RADICAL-INDUCED DNA DAMAGE WITH BROMODEOXYURIDINE-HOECHST FLOW CYTOMETRY IMPLICATIONS FOR BLOOM'S SYNDROME
1990

37/6/59 (Item 59 from file: 73)
04290398 EMBASE No: 1990172954
Rapidly fatal progression of cobalt lung in a diamond polisher
1990

37/6/63 (Item 63 from file: 155)
05819351 87127027 PMID: 2880567
On the interaction between anthralin and mitochondria: a revision.
1986

37/6/65 (Item 65 from file: 5)

05572933 BIOSIS NO.: 000083046073
PROTECTIVE EFFECTS OF O-BETA HYDROXYETHYLRUTOSIDE ON CISPLATINUM-INDUCED ACUTE RENAL FAILURE IN THE RAT
1986

37/6/67 (Item 67 from file: 5)
05098546 BIOSIS NO.: 000081056670
ALTERATIONS IN SUPEROXIDE DISMUTASE GLUTATHIONE AND PEROXIDES IN THE PLASMODIAL SLIME MOLD PHYSARUM-POLYCEPHALUM DURING DIFFERENTIATION
1985

37/6/68 (Item 68 from file: 73)
02574244 EMBASE No: 1984243099
Alterations in oxygen transport following WR-2721
1984

37/6/69 (Item 69 from file: 73)
02549834 EMBASE No: 1983023845
Antioxidants, metabolic rate and aging in Drosophila
1982

37/6/70 (Item 70 from file: 73)
02446279 EMBASE No: 1983099290
Mechanisms of chemical toxicity - A unifying hypothesis
1982

37/6/72 (Item 72 from file: 73)
00011052 EMBASE No: 1974001052
Oxidation of 3,3' diaminobenzidine by rat liver mitochondria
1973

37/6/74 (Item 74 from file: 5)
09628451 BIOSIS NO.: 199598083369
Effect of oxidative stress during inhibition of soybean embryonic axes.

33/TI/2 (Item 2 from file: 350)
DIALOG(R)File 350:(c) 2002 Derwent Info Ltd. All rts. reserv.
Treatment of central nervous system injuries or diseases comprises administering at least one lipoic acid

33/TI/4 (Item 4 from file: 350)
DIALOG(R)File 350:(c) 2002 Derwent Info Ltd. All rts. reserv.
New 3-amino-2H-1,4-benzoxazine derivatives, are nitrogen monoxide synthase inhibitors, radical scavengers and antioxidants useful for treating neurodegenerative, inflammatory, autoimmune or cardiovascular diseases

33/TI/5 (Item 5 from file: 350)
DIALOG(R)File 350:(c) 2002 Derwent Info Ltd. All rts. reserv.
New conjugates of a group which localizes in tumor or atheroma cells and a moiety which catalyzes the production of reactive oxygen species , useful in treating atheroma and tumors

33/TI/6 (Item 6 from file: 350)
DIALOG(R)File 350:(c) 2002 Derwent Info Ltd. All rts. reserv.

Metal binding peptide compounds prévent damage by reactive oxygen species in animal organs and tissues, useful for reperfusion, transplantation and treating e.g. ischemia, neurological and cardiovascular diseases

33/TI/7 (Item 7 from file: 350)
DIALOG(R)File 350:(c) 2002 Derwent Info Ltd. All rts. reserv.
Administration of an NO group bound within a compound is useful for treatment of pulmonary, cardiac and blood disorders as formation of NO2 or NOx is prevented

33/TI/9 (Item 9 from file: 350)
DIALOG(R)File 350:(c) 2002 Derwent Info Ltd. All rts. reserv.
New cysteinyl S-acyl cysteamine derivatives useful as anti-oxidants and to increase intracellular and/or extracellular levels of glutathion

33/TI/10 (Item 10 from file: 350)
DIALOG(R)File 350:(c) 2002 Derwent Info Ltd. All rts. reserv.
Treatment of cellular damage and disorders caused by reactive oxygen species e.g. atherosclerosis, ischemias or schizophrenia, by administration of limonene or oil containing it

33/TI/11 (Item 11 from file: 350)
DIALOG(R)File 350:(c) 2002 Derwent Info Ltd. All rts. reserv.
New substituted porphyrins useful for e.g. treating conditions that result from or are exacerbated by oxidant-induced toxicity

33/TI/12 (Item 12 from file: 350)
DIALOG(R)File 350:(c) 2002 Derwent Info Ltd. All rts. reserv.
New lipoic acid derivatives, useful for treating e.g. aging disorders, hypertension, asthma, trauma, neurotoxicity, neurodegenerative disorders, AIDS, inflammatory bowel disease and neuropathy are scavengers of reactive oxygen

33/TI/14 (Item 14 from file: 350)
DIALOG(R)File 350:(c) 2002 Derwent Info Ltd. All rts. reserv.
Introducing a plant Rac gene to an animal, useful in gene therapy to treat patients with infections and to prevent reperfusion injuries and blood vessel damage

33/TI/15 (Item 15 from file: 350)
DIALOG(R)File 350:(c) 2002 Derwent Info Ltd. All rts. reserv.
Cosmetic composition for soothing the skin and reducing inflammation, lines and wrinkles, by combating effects of free radicals, contains green coffee and shea butter extracts

33/TI/16 (Item 16 from file: 350)
DIALOG(R)File 350:(c) 2002 Derwent Info Ltd. All rts. reserv.
Antioxidant compositions comprising uric acid precursor e.g. hypoxanthine, used to treat e.g. Alzheimer's disease, neurodegenerative disease, oxidative damage or cancer, and infection

33/TI/17 (Item 17 from file: 350)
DIALOG(R)File 350:(c) 2002 Derwent Info Ltd. All rts. reserv.
New quinazoline Janus family kinase 3 inhibitors, used for treating, e.g. pathological conditions in mammalian or avian cells

33/TI/18 (Item 18 from file: 350)
DIALOG(R)File 350:(c) 2002 Derwent Info Ltd. All rts. reserv.
Use of hemoprotein compounds e.g. flavohemoglobin, for reducing concentrations of oxygen and nitric oxide in a mammal, and for treating tumors, Ascaris sp. and inflammatory diseases.

33/TI/19 (Item 19 from file: 350)
DIALOG(R)File 350:(c) 2002 Derwent Info Ltd. All rts. reserv.
Lysozyme/surfactant protein-B fusion proteins useful for treating bacterial infections of the respiratory system

33/TI/20 (Item 20 from file: 350)
DIALOG(R)File 350:(c) 2002 Derwent Info Ltd. All rts. reserv.
Alpha-keto carboxylic acid compositions for enhancing phosphorylation potential,

25/TI/1 (Item 1 from file: 348)
DIALOG(R)File 348:(c) 2002 European Patent Office. All rts. reserv.
Use of raloxifene and its analogs for the manufacture of a medicament for the Inhibition of LDL oxidation and atherosclerosis

25/TI/3 (Item 3 from file: 348)
DIALOG(R)File 348:(c) 2002 European Patent Office. All rts. reserv.
Pyrazolidine derivative, radical scavenger, brain-infarction depressant, and brain-edema depressant

25/TI/4 (Item 4 from file: 348)
DIALOG(R)File 348:(c) 2002 European Patent Office. All rts. reserv.
Use of raloxifene and its analogs for the manufacture of a medicament for the treatment of atherosclerose and ischaemic heart disease

25/TI/5 (Item 5 from file: 348)
DIALOG(R)File 348:(c) 2002 European Patent Office. All rts. reserv.
METHODS FOR PROVIDING LOCALIZED THERAPEUTIC HEAT TO BIOLOGICAL TISSUES AND FLUIDS USING GAS FILLED LIPOSOMES

25/TI/6 (Item 6 from file: 348)
DIALOG(R)File 348:(c) 2002 European Patent Office. All rts. reserv.
HYDRAZIDE DERIVATIVES OF 3,4-DIHYDRO-2H-1-BENZOPYRANS

25/TI/7 (Item 7 from file: 348)
DIALOG(R)File 348:(c) 2002 European Patent Office. All rts. reserv.
NOVEL DERIVATIVES OF 2,3-DIHYDRO-2,2,4,6,7-PENTAALKYL-5-BENZOFURANOLS

25/TI/9 (Item 9 from file: 348)
DIALOG(R)File 348:(c) 2002 European Patent Office. All rts. reserv.
Use of L-2-oxo thiazolidine-4-carboxylate for the treatment of pulmonary diseases

25/TI/11 (Item 11 from file: 348)
DIALOG(R)File 348:(c) 2002 European Patent Office. All rts. reserv.
Chemical Compounds and pharmaceutical compositions capable of releasing a drug

25/TI/12 (Item 12 from file: 348)
DIALOG(R)File 348:(c) 2002 European Patent Office. All rts. reserv.

COSMETIC METHOD APPLYING AN EXTRACT OF THE AERIAL PARTS OF(cichorium intybus l).

25/TI/13 (Item 13 from file: 348)
DIALOG(R)File 348:(c) 2002 European Patent Office. All rts. reserv.
Cosmetic method using an extract of the aerial parts of cichorium intybus L.

25/TI/14 (Item 14 from file: 348)
DIALOG(R)File 348:(c) 2002 European Patent Office. All rts. reserv.
Interstitial administration of perfluorchemical emulsions for reoxygenation of hypoxic tumor cells.

25/TI/15 (Item 15 from file: 349)
DIALOG(R)File 349:(c) 2002 WIPO/Univentio. All rts. reserv.
CRYSTAL STRUCTURE OF A RAS-PI3K COMPLEX

25/TI/16 (Item 16 from file: 349)
DIALOG(R)File 349:(c) 2002 WIPO/Univentio. All rts. reserv.
THE NIP3 FAMILY OF PROTEINS

25/TI/17 (Item 17 from file: 349)
DIALOG(R)File 349:(c) 2002 WIPO/Univentio. All rts. reserv.
NEUROTOXIC OLIGOMERS

25/TI/18 (Item 18 from file: 349)
DIALOG(R)File 349:(c) 2002 WIPO/Univentio. All rts. reserv.
NUCLEIC ACIDS, PROTEINS, AND ANTIBODIES

25/TI/19 (Item 19 from file: 349)
DIALOG(R)File 349:(c) 2002 WIPO/Univentio. All rts. reserv.
IMPLANTABLE GLUCOSE SENSOR

25/TI/20 (Item 20 from file: 349)
DIALOG(R)File 349:(c) 2002 WIPO/Univentio. All rts. reserv.
COMPOSITIONS AND METHODS FOR MODULATING APOPTOSIS IN CELLS OVER-EXPRESSING bcl-2 FAMILY MEMBER PROTEINS

25/TI/21 (Item 21 from file: 349)
DIALOG(R)File 349:(c) 2002 WIPO/Univentio. All rts. reserv.
FISH VACCINE

25/TI/22 (Item 22 from file: 349)
DIALOG(R)File 349:(c) 2002 WIPO/Univentio. All rts. reserv.
USE OF CREATINE OR CREATINE COMPOUNDS FOR SKIN PRESERVATION

25/TI/23 (Item 23 from file: 349)
DIALOG(R)File 349:(c) 2002 WIPO/Univentio. All rts. reserv.
METHODS AND PRODUCTS FOR MANIPULATING UNCOUPLING PROTEIN EXPRESSION

25/TI/24 (Item 24 from file: 349)
DIALOG(R)File 349:(c) 2002 WIPO/Univentio. All rts. reserv.
MITOCHONDRIAL DNA DAMAGE AS A PREDICTOR OF CORONARY ATHEROSCLEROTIC HEART DISEASE

25/TI/25 (Item 25 from file: 349)
DIALOG(R)File 349:(c) 2002 WIPO/Univentio. All rts. reserv.

COMPOSITIONS AND METHODS FOR TREATMENT OF MITOCHONDRIAL DISEASES

25/TI/26 (Item 26 from file: 349)
DIALOG(R)File 349:(c) 2002 WIPO/Univentio. All rts. reserv.
SUBTLE MITOCHONDRIAL MUTATIONS AS TUMOR MARKERS

25/TI/27 (Item 27 from file: 349)
DIALOG(R)File 349:(c) 2002 WIPO/Univentio. All rts. reserv.
BIPYRIDINE MANGANESE COMPLEXES

25/TI/28 (Item 28 from file: 349)
DIALOG(R)File 349:(c) 2002 WIPO/Univentio. All rts. reserv.
CHEMICALLY INDUCED INTRACELLULAR HYPERTHERMIA

25/TI/29 (Item 29 from file: 349)
DIALOG(R)File 349:(c) 2002 WIPO/Univentio. All rts. reserv.
TEST FOR OXIDATIVE STRESS USING CELL SUSPENSIONS

25/TI/30 (Item 30 from file: 349)
DIALOG(R)File 349:(c) 2002 WIPO/Univentio. All rts. reserv.
PHARMACEUTICAL COMPOSITIONS CONTAINING ALPHA-TOCOPHERYLPHOSPHOCHOLINE

25/TI/31 (Item 31 from file: 349)
DIALOG(R)File 349:(c) 2002 WIPO/Univentio. All rts. reserv.
METHODS FOR IDENTIFYING INDUCERS AND INHIBITORS OF PROTEOLYTIC ANTIBODIES, COMPOSITIONS AND THEIR USES

25/TI/32 (Item 32 from file: 349)
DIALOG(R)File 349:(c) 2002 WIPO/Univentio. All rts. reserv.
DIAGNOSTIC ASSAY FOR LATE-ONSET ALZHEIMER'S DISEASE

25/TI/34 (Item 34 from file: 349)
DIALOG(R)File 349:(c) 2002 WIPO/Univentio. All rts. reserv.
HUMAN SIGNAL TRANSDUCTION SERINE/THREONINE KINASE

25/TI/35 (Item 35 from file: 349)
DIALOG(R)File 349:(c) 2002 WIPO/Univentio. All rts. reserv.
BANANA PROTEINS, DNA, AND DNA REGULATORY ELEMENTS ASSOCIATED WITH FRUIT DEVELOPMENT

25/TI/36 (Item 36 from file: 349)
DIALOG(R)File 349:(c) 2002 WIPO/Univentio. All rts. reserv.
HUMAN STE20-LIKE STRESS ACTIVATED SERINE/THREONINE KINASE

25/TI/37 (Item 37 from file: 349)
DIALOG(R)File 349:(c) 2002 WIPO/Univentio. All rts. reserv.
METHODS AND COMPOSITIONS FOR THE PREVENTION AND TREATMENT OF MUSCLE CRAMPS AND IMPROVING MUSCULAR STRENGTH IN ATHLETES

25/TI/39 (Item 39 from file: 349)
DIALOG(R)File 349:(c) 2002 WIPO/Univentio. All rts. reserv.
METHODS AND COMPOSITIONS FOR IDENTIFICATION OF AUTOANTIGENS

25/TI/40 (Item 40 from file: 349)
DIALOG(R)File 349:(c) 2002 WIPO/Univentio. All rts. reserv.
MOUSE LACKING HEART-MUSCLE ADENINE NUCLEOTIDE TRANSLOCATOR PROTEIN AND METHODS

25/TI/41 (Item 41 from file: 349)
DIALOG(R)File 349:(c) 2002 WIPO/Univentio. All rts. reserv.
ASSESSMENT OF INTRACELLULAR CYSTEINE AND GLUTATHIONE CONCENTRATIONS

25/TI/45 (Item 45 from file: 349)
DIALOG(R)File 349:(c) 2002 WIPO/Univentio. All rts. reserv.
USE OF AMINOADAMANTANE COMPOUNDS AS IMMUNOREGULATORS

25/TI/49 (Item 49 from file: 349)
DIALOG(R)File 349:(c) 2002 WIPO/Univentio. All rts. reserv.
NOVEL PROCESS FOR PREPARING 2,3-DIHYDRO-BENZOFURANOL DERIVATIVES

25/TI/50 (Item 50 from file: 349)
DIALOG(R)File 349:(c) 2002 WIPO/Univentio. All rts. reserv.
CONTROLLING BONE RESORPTION WITH PYRROLOQUINOLINE QUINONE (PQQ) AND RELATED COMPOUNDS

25/TI/52 (Item 52 from file: 349)
DIALOG(R)File 349:(c) 2002 WIPO/Univentio. All rts. reserv.
NUTRITIONAL PRODUCT FOR PULMONARY PATIENTS

25/TI/53 (Item 53 from file: 349)
DIALOG(R)File 349:(c) 2002 WIPO/Univentio. All rts. reserv.
METHODS FOR TREATMENT OF FREE-RADICAL-MEDIATED TISSUE INJURY

25/TI/54 (Item 54 from file: 349)
DIALOG(R)File 349:(c) 2002 WIPO/Univentio. All rts. reserv.
USE OF SPIN TRAPPING FOR THE TREATMENT OF DISEASES ASSOCIATED WITH OXIDATION OF LIPIDS AND PROTEINS

25/TI/55 (Item 55 from file: 349)
DIALOG(R)File 349:(c) 2002 WIPO/Univentio. All rts. reserv.
SYNERGISTIC COMPOSITIONS OF SOLUBLE COMPLEMENT RECEPTORS AND COMPOUNDS THAT INHIBIT COMPLEMENT AND/OR SUPPRESS IMMUNE ACTIVITY

25/TI/57 (Item 57 from file: 349)
DIALOG(R)File 349:(c) 2002 WIPO/Univentio. All rts. reserv.
PROSTAGLANDIN B1, MACROMOLECULES AS ANTI-INFLAMMATORY AGENTS

1/8/2
DIALOG(R)File 155:MEDLINE(R)
12904058 21829739 PMID: 11841193
Potential antioxidant mechanism of action for metronidazole: implications for rosacea management.
Nov-Dec 2001
Tags: Human; In Vitro; Support, Non-U.S. Gov't
Descriptors: Acne Rosacea--drug therapy--DT; *Anti-Infective Agents --pharmacology--PD; *Antioxidants--pharmacology--PD; *Metronidazole --pharmacology--PD; * Reactive Oxygen Species --antagonists and inhibitors --AI; Acne Rosacea--physiopathology--PP; Aging--drug effects--DE; Aging --physiology--PH; Anti-Infective Agents--therapeutic use--TU; Antioxidants --therapeutic use--TU; Metronidazole--therapeutic use--TU; Neutrophils --drug effects--DE
CAS Registry No.: 0 (Anti-Infective Agents); 0 (Antioxidants); 0 (Reactive Oxygen Species); 443-48-1 (Metronidazole)

1/8/3
DIALOG(R)File 155:MEDLINE(R)
12879806 21660905 PMID: 11801337
Neuronal injury in bacterial meningitis: mechanisms and implications for therapy.
Jan 2002
Tags: Animal; Human
Descriptors: *Encephalitis--physiopathology--PP; *Meningitis, Bacterial --physiopathology--PP; *Nerve Degeneration--physiopathology--PP; Bacteria --drug effects--DE; Bacteria--metabolism--ME; Bacteria--pathogenicity--PY ; Bacterial Toxins--immunology--IM; Bacterial Toxins--metabolism--ME; Brain Ischemia--etiology--ET; Brain Ischemia--pathology--PA; Brain Ischemia--physiopathology--PP; Caspases--antagonists and inhibitors--AI; Caspases--metabolism--ME; Chemotaxis, Leukocyte--drug effects--DE; Chemotaxis, Leukocyte--immunology--IM; Encephalitis--drug therapy--DT; Encephalitis--pathology--PA; Excitatory Amino Acids --antagonists and inhibitors--AI; Excitatory Amino Acids--metabolism--ME; Meningitis, Bacterial--drug therapy--DT; Meningitis, Bacterial--pathology--PA; Nerve Degeneration--drug therapy--DT; Nerve Degeneration--pathology--PA; Reactive Oxygen Species --antagonists and inhibitors--AI; Reactive Oxygen Species--metabolism--ME
CAS Registry No.: 0 (Bacterial Toxins); 0 (Excitatory Amino Acids); 0 (Reactive Oxygen Species)
Enzyme No.: EC 3.4.22.- (Caspases)

1/8/4
DIALOG(R)File 155:MEDLINE(R)
12860644 21624012 PMID: 11754078
Huperzine A attenuates amyloid beta-peptide fragment 25-35-induced apoptosis in rat cortical neurons via inhibiting reactive oxygen species formation and caspase-3 activation.
Jan 1 2002
Tags: Animal; Female; Pregnancy; Support, Non-U.S. Gov't
Descriptors: Amyloid beta-Protein--antagonists and inhibitors--AI; *Apoptosis--drug effects--DE; *Caspases--antagonists and inhibitors--AI; *Cerebral Cortex--drug effects--DE; *Cholinesterase Inhibitors --pharmacology--PD; *Neurons--drug effects--DE; *Peptide Fragments --antagonists and inhibitors--AI; * Reactive Oxygen Species --antagonists and inhibitors--AI; *Sesquiterpenes--pharmacology--PD; Alzheimer Disease

--drug therapy--DT; Alzheimer Disease--metabolism--ME; Alzheimer Disease --physiopathology--PP; Amyloid beta-Protein--pharmacology--PD; Animals, Newborn; Apoptosis--physiology--PH; Caspases--metabolism--ME; Cell Survival --drug effects--DE; Cell Survival--physiology--PH; Cells, Cultured; Cerebral Cortex--metabolism--ME; Cerebral Cortex--physiopathology--PP; Coumarins--pharmacokinetics--PK; Cysteine Proteinase Inhibitors --pharmacology--PD; Drug Interactions--physiology--PH; Fetus; Flow Cytometry; Neurons--metabolism--ME; Oligopeptides--pharmacokinetics--PK; Peptide Fragments--pharmacology--PD; Rats; Rats, Sprague-Dawley; Reactive Oxygen Species--metabolism--ME

CAS Registry No.: 0 (Ac-aspartyl-glutamyl-valyl-aspartyl-aminomethylcoumarin); 0 (Amyloid beta-Protein); 0 (Cholinesterase Inhibitors); 0 (Coumarins); 0 (Cysteine Proteinase Inhibitors); 0 (Oligopeptides); 0 (Peptide Fragments); 0 (Reactive Oxygen Species); 0 (Sesquiterpenes); 0 (amyloid beta-protein (25-35)); 102518-79-6 (huperzine A)

Enzyme No.: EC 3.4.22.- (CPP32 protein); EC 3.4.22.- (Caspases)

1/8/5
DIALOG(R)File 155:MEDLINE(R)
12850892 21589795 PMID: 11732327

Reactive oxygen intermediates involved in cellular regulation.
2001

Tags: Animal; Human

Descriptors: *Cell Physiology; *Reactive Oxygen Species--metabolism--ME; *Signal Transduction; Cell Cycle--physiology--PH; Cell Death; Cells, Cultured; Fibroblasts--physiology--PH; Gene Expression Regulation --physiology--PH; Joints--ultrastructure--UL; Oxidation-Reduction; Phosphotransferases--metabolism--ME; Proto-Oncogenes; Reactive Oxygen Species --antagonists and inhibitors--AI

CAS Registry No.: 0 (Reactive Oxygen Species)

Enzyme No.: EC 2.7 (Phosphotransferases)

1/8/6
DIALOG(R)File 155:MEDLINE(R)
12799360 21611841 PMID: 11746428

Toxic effect of L-2-chloropropionate on cultured rat cerebellar granule cells is ameliorated after inhibition of reactive oxygen species formation.
Dec 1 2001

Tags: Animal

Descriptors: Cell Death--physiology--PH; *Cerebellar Cortex--drug effects --DE; *Neurons--drug effects--DE; *Neurotoxins--toxicity--TO; *Oxidative Stress--physiology--PH; *Propionic Acids--toxicity--TO; * Reactive Oxygen Species --antagonists and inhibitors--AI; Animals, Newborn; Antioxidants --pharmacology--PD; Cell Death--drug effects--DE; Cells, Cultured; Cerebellar Cortex--metabolism--ME; Cerebellar Cortex--physiopathology--PP; Enzyme Inhibitors--pharmacology--PD; Glutathione--drug effects--DE; Glutathione--metabolism--ME; Immunosuppressive Agents--pharmacology--PD; Intracellular Membranes--drug effects--DE; Intracellular Membranes --metabolism--ME; Mitochondria--drug effects--DE; Mitochondria--metabolism --ME; Mitogen-Activated Protein Kinases--antagonists and inhibitors--AI; Mitogen-Activated Protein Kinases--metabolism--ME; Neurons--metabolism--ME ; Neuroprotective Agents--pharmacology--PD; Oxidative Stress--drug effects --DE; Permeability--drug effects--DE; Rats; Rats, Wistar; Reactive Oxygen Species--metabolism--ME

CAS Registry No.: 0 (Antioxidants); 0 (Enzyme Inhibitors); 0 (Immunosuppressive Agents); 0 (Neuroprotective Agents); 0 (Neurotoxins)

; 0 (Propionic Acids); 0 (Reactive Oxygen Species); 598-78-7 (2-chloropropionic acid); 70-18-8 (Glutathione)
Enzyme No.: EC 2.7.1.- (Mitogen-Activated Protein Kinases)

11/6/4 (Item 4 from file: 34)
09700555 Genuine Article#: 438EB Number of References: 20
Title: Real-time monitoring of ethane in human breath using mid-infrared cavity leak-out spectroscopy (ABSTRACT AVAILABLE)
Publication date: 20010600

11/6/6 (Item 6 from file: 144)
14613873 PASCAL No.: 00-0283306
Exhaled ethane is elevated in cystic fibrosis and correlates with carbon monoxide levels and airway obstruction
2000

11/6/11 (Item 11 from file: 5)
11956279 BIOSIS NO.: 199900202388
Breath ethane as a marker of reactive oxygen species during manipulation of diet and oxygen tension in rats.
1999

11/6/12 (Item 12 from file: 34)
07328521 Genuine Article#: 151BL Number of References: 15
Title: Ethane: A marker of lipid peroxidation during cardiopulmonary bypass in humans (ABSTRACT AVAILABLE)
Publication date: 19990200

11/6/13 (Item 13 from file: 5)
11757291 BIOSIS NO.: 199900003400
Effect of dietary patterns on measures of lipid prevention: Results from a randomized clinical trial.
1998

11/6/16 (Item 16 from file: 34)
07271724 Genuine Article#: 143VQ Number of References: 38
Title: Effect of dietary patterns on measures of lipid peroxidation - Results from a randomized clinical trial (ABSTRACT AVAILABLE)
Publication date: 19981201

11/6/17 (Item 17 from file: 5)
11388579 BIOSIS NO.: 199800169911
Correction of PREVIEWS 99790335. Possible antioxidant effect of vitamin A supplementation in premature infants. Correction of journal title from Journal of Pediatric Gastroenterology and Nutrition.
1997

11/6/23 (Item 23 from file: 73)
06963030 EMBASE No: 1997247608
Association between cigarette smoking and lipid peroxidation in a controlled feeding study
1997

11/6/34 (Item 34 from file: 34)
04005849 Genuine Article#: QX804 Number of References: 28
Title: CIGARETTE-SMOKING AND ETHANE EXHALATION IN HUMANS (Abstract Available)

11/6/35 (Item 35 from file: 144)
11929222 PASCAL No.: 95-0103085

Elevated breath ethane levels in active ulcerative colitis : evidence for excessive lipid peroxidation
1994

11/6/36 (Item 36 from file: 5)
09620347 BIOSIS NO.: 199598075265
Elevated breath ethane levels in active ulcerative colitis: Evidence for excessive lipid peroxidation.
1994

11/6/37 (Item 37 from file: 5)
09601818 BIOSIS NO.: 199598056736
Breath ethane generation during clinical total body irradiation as a marker of oxygen- free - radical -mediated lipid peroxidation: A case study.
1994

11/6/38 (Item 38 from file: 5)
09370640 BIOSIS NO.: 199497379010
The potential of the hydrocarbon breath test as a measure of lipid peroxidation.
1994

11/6/42 (Item 42 from file: 5)
08968324 BIOSIS NO.: 199396119825
Thermal desorption-gas chromatographic determination of ethane and pentane in breath as potential markers of lipid peroxidation.
1993

11/6/43 (Item 43 from file: 5)
08744628 BIOSIS NO.: 199395033979
Breath ethane : A specific indicator of free - radical -mediated lipid peroxidation following reperfusion of the ischemic liver.
1992

11/6/44 (Item 44 from file: 34)
01694661 Genuine Article#: HT334 Number of References: 195
Title: THE HYDROCARBON BREATH TEST IN THE STUDY OF LIPID-PEROXIDATION - PRINCIPLES AND PRACTICE (Abstract Available)

11/6/45 (Item 45 from file: 34)
01671485 Genuine Article#: HR032 Number of References: 29
Title: GENERAL-ANESTHESIA AND EXHALED BREATH HYDROGEN-PEROXIDE (Abstract Available)

11/6/46 (Item 46 from file: 34)
00875437 Genuine Article#: FD464 Number of References: 0
Title: INVIVO BREATH ALKANE AS AN INDEX OF LIPID-PEROXIDATION (Abstract Available)

11/6/50 (Item 50 from file: 73)
04087065 EMBASE No: 1989256111
Breath alkanes as an index of lipid peroxidation
1989

11/6/51 (Item 51 from file: 5)

06142967 BIOSIS NO.: 000085106119
ETHANE PRODUCTION RATE IN RATS EXPOSED TO HIGH OXYGEN CONCENTRATION
1988

11/6/52 (Item 52 from file: 399)

Free radical lipid peroxidation through expired ethane and pentane. An improved method

1/26,TI/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2002 Derwent Info Ltd. All rts. reserv.
007820319
WPI Acc No: 1989-085431/198911
Method of separating gases with membrane separator - using low velocity gas feed and vertically orientated membrane so that mixt. moves under action of gravity

1/26,TI/2 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2002 Derwent Info Ltd. All rts. reserv.
004761573
WPI Acc No: 1986-264914/198640
Breathing apparatus for divers - consists of helmet connected to breathable gas supply and stowable bag also connected to be deployed providing breathable volume of gas

1/26,TI/3 (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2002 Derwent Info Ltd. All rts. reserv.
004640801
WPI Acc No: 1986-144144/198622
Gas pump for return-line diving system - has variable delivery hydraulically-driven pump actuated on demand

1/26,TI/4 (Item 4 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2002 Derwent Info Ltd. All rts. reserv.
003910080
WPI Acc No: 1984-055624/198409
Exothermic heater for underwater diving equipment - has water drawn into chemical reaction zone by air-lift effect of vented gas

1/26,TI/5 (Item 5 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2002 Derwent Info Ltd. All rts. reserv.
003782706
WPI Acc No: 1983-778933/198340
Heating system for submersible e.g. diving bell - has water drain and gas vent to empty heating pipe circuit when bell is lifted from sea

1/26,TI/6 (Item 6 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2002 Derwent Info Ltd. All rts. reserv.
002499065
WPI Acc No: 1980-17080C/198010
Heater for submersible hulls and divers suits - using exothermic reaction between aluminium ingot and aq. sodium hydroxide soln.

1/26,TI/7 (Item 7 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2002 Derwent Info Ltd. All rts. reserv.
002298645
WPI Acc No: 1980-A5077C/198003

Headgear for use in return-line diving system - has exhaust regulating valve with pressure-responsive pivoted flap including flexible peripheral wall

File 350:Derwent WPIX 1963-2001/UD,UM &UP=200216
File 344:CHINESE PATENTS ABS APR 1985-2001/Dec
File 347:JAPIO Oct/1976-2001/Nov(Updated 020305)
File 371:French Patents 1961-2002/BOPI 200209

Set	Items	Description
S1	**7**	**AU="KRASBERG A"**

****

3/TI/1 (Item 1 from file: 348)
DIALOG(R)File 348:(c) 2002 European Patent Office. All rts. reserv.
APPARATUS FOR AND METHOD OF PROVIDING IMPROVED GAS SEPARATION.

3/TI/2 (Item 2 from file: 348)
DIALOG(R)File 348:(c) 2002 European Patent Office. All rts. reserv.
EMERGENCY BREATHING APPARATUS FOR DIVERS.

3/TI/3 (Item 3 from file: 348)
DIALOG(R)File 348:(c) 2002 European Patent Office. All rts. reserv.
GAS PUMP.

3/TI/4 (Item 4 from file: 348)
DIALOG(R)File 348:(c) 2002 European Patent Office. All rts. reserv.
Method and apparatus for the heating of underwater equipment.

3/TI/5 (Item 5 from file: 348)
DIALOG(R)File 348:(c) 2002 European Patent Office. All rts. reserv.
Breathing apparatus, especially diving headgear for use in return-line diving systems.

File 348:EUROPEAN PATENTS 1978-2002/Mar W01
File 349:PCT FULLTEXT 1983-2002/UB=20020307,UT=20020228

Set	Items	Description
S1	8	AU="KRASBERG":AU="KRASBERG ALAN"
S2	8	IDPAT (sorted in duplicate/non-duplicate order)
S3	**5**	**IDPAT (primary/non-duplicate records only)**

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23/7/1
DIALOG(R)File 155:MEDLINE(R)
09026060 96406794 PMID: 8810881
Mucormycosis. Adjunctive therapy with hydrogen peroxide.
Blaine DA; Frable MA
Department of Otolaryngology-Head & Neck Surgery, Virginia Commonwealth University/Medical College of Virginia, Richmond, USA.
Virginia medical quarterly (UNITED STATES) Winter 1996, 123 (1) p30-2, ISSN 1052-4231 Journal Code: A1L
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
Mucormycosis is a devastating fungal disease affecting mainly diabetic and immunosuppressed patients and frequently causing death. Mucor rhizopus,

the opportunistic fungus, has been controlled via radical extirpation and intravenous Amphotericin B. Hyperbaric oxygen also has been used. The authors present two interesting patients: 1) A diabetic female with rhinoorbital mucormycosis post total maxillectomy with recurrent mucormycosis and 2) A diabetic female with acute myelogenous leukemia and sphenoid sinus mucormycosis post functional endoscopic sinus surgery with residual mucormycosis. Both patients were receiving Amphotericin B without improvement. **Both fungal infections were apparently eradicated with 1/2 strength topical hydrogen peroxide soaks. It appears the hydrogen peroxide destroys mucor and supporting host tissue by oxidation.** The authors propose adding 1/2 strength topical hydrogen peroxide soaks to the list of possible adjunctive treatments of mucormycosis.
Record Date Created: 19961204

23/7/2
DIALOG(R)File 155:MEDLINE(R)
06176007 85206289 PMID: 3888840
Lack of antibacterial activity after intravenous hydrogen peroxide infusion in experimental Escherichia coli sepsis.
Shenep JL; Stokes DC; Hughes WT
Infection and immunity (UNITED STATES) Jun 1985, 48 (3) p607-10, ISSN 0019-9567 Journal Code: GO7
Contract/Grant No.: RR-00584-18, RR, NCRR
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
The intravenous administration of hydrogen peroxide has been reported to benefit patients with pneumonia and to reduce Plasmodium parasitemia in experimentally infected mice. We assessed the antibacterial activity of intravenously infused hydrogen peroxide against hydrogen peroxide-susceptible Escherichia coli (MBC of hydrogen peroxide, 0.23 mM) in experimentally infected rabbits. No decrease in the level of bacteremia was detected at the maximum intravenous infusion rate of hydrogen peroxide physiologically tolerated by the rabbits (2.0 mumol/h). Moreover, the addition ex vivo of greater amounts of hydrogen peroxide to human or murine blood containing E. coli resulted in no detectable antibacterial action. **In contrast, ethyl hydrogen peroxide, which is not affected by catalase, was bactericidal when added ex vivo to human blood containing E. coli.** These results suggest that extracellular hydrogen peroxide, whether of exogenous or endogenous origin, does not have antibacterial activity in the blood of animals having even low levels of catalase.
Record Date Created: 19850710

23/7/3
DIALOG(R)File 155:MEDLINE(R)
05775239 88078495 PMID: 2825863
What should an ideal antioxidant do (and not do)?
Flenley DC
Department of Respiratory Medicine, University of Edinburgh, City Hospital, UK.
Bulletin europeen de physiopathologie respiratoire (ENGLAND) Jul-Aug 1987, 23 (4) p279-85, ISSN 0395-3890 Journal Code: BGX
Languages: ENGLISH
Document type: Journal Article; Review; Review, Tutorial
Record type: Completed
Superoxide, H2O2 and particularly activated hydroxyl radicals (OH.) can cause lipid peroxidation, destroy enzymes and anti-elastases, produce DNA

breaks and lead to death of mammalian cells. **Conversely, these active oxygen species may also be very important for the killing of some microbial infective agents.** Clearly the therapeutic potential for reducing the destructive activity of oxidants must be offset by any harm which may result from inhibition of these protective actions of oxidants. The challenge lies in providing the one without the other. (47 Refs.)
Record Date Created: 19880217

23/7/4
DIALOG(R)File 155:MEDLINE(R)
03537599 79015844 PMID: 358528
Endogenous oxygenation with hydrogen peroxide]
Endogennaia oksigenatsiia perekis'iu vodoroda.
Gerasimenko NI; Priimak AA; Segedi SA; Musarov AL
Vestnik khirurgii imeni I. I. Grekova (USSR) Jul 1978, 121 (7) p127-32, ISSN 0042-4625 Journal Code: XA4
Languages: RUSSIAN
Document type: Clinical Trial; Journal Article
Record type: Completed
Record Date Created: 19781118

23/7/5
DIALOG(R)File 155:MEDLINE(R)
03202491 80105122 PMID: 524918
Plasma hemoglobin in rectal or intravenous hydrogen peroxide for extrapulmonary oxygenation.
Yun DJ; Cha SK
Yonsei medical journal (KOREA) 1979, 20 (1) p1-7, ISSN 0513-5796 Journal Code: XRR
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
Record Date Created: 19800317

23/7/6
DIALOG(R)File 155:MEDLINE(R)
02851344 76160917 PMID: 1222093
[Changes in some biological parameters in 2 groups of animals exposed to experimental hypoxia, of which 1 group was simultaneously perfused with perhydrol]
Variazioni di alcuni parametri biologici in due gruppi di anima li sottoposti ad ipossia sperimentale, di cui uno e' contempora neamente perfuso con peridrolo
Tarzia R; Ferrara P; Graziadei L; Lombardi S
Bollettino della Societa italiana di biologia sperimentale (ITALY) Jun 30 1975, 51 (12) p728-34, ISSN 0037-8771 Journal Code: ALS
Languages: ITALIAN
Document type: Journal Article
Record type: Completed
Record Date Created: 19760706

23/7/7
DIALOG(R)File 155:MEDLINE(R)
01976310 74121918 PMID: 4593488
Management of urban tetanus.
Heurich AE; Brust JC; Richter RW

Medical clinics of North America (UNITED STATES) Nov 1973, 57 (6) p1373-81, ISSN 0025-7125 Journal Code: LU6
Languages: ENGLISH
Document type: Journal Article; Review
Record type: Completed
(18 Refs.)
Record Date Created: 19740516

23/7/8
DIALOG(R)File 155:MEDLINE(R)
00806946 71002019 PMID: 5402556
Extrapulmonary oxygenation by giving hydrogen peroxide by enema.
Yun DJ
Yonsei medical journal (KOREA) 1969, 10 (2) p125-38, ISSN 0513-5796 Journal Code: XRR
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
Record Date Created: 19701120

23/7/9
DIALOG(R)File 155:MEDLINE(R)
00123225 95392078 PMID: 10150801
Recent advances in the treatment of ARDS.
Rossaint R; Pappert D; Fritz G
Klinik fur Anaesthesiologie und operative Intensivmedizin, Virchow Klinikum, Medizinische Fakultat, Humboldt-Universitat, Berlin, Germany.
Clinical intensive care (ENGLAND) 1995, 6 (2) p62-71, ISSN 0956-3075 Journal Code: BCL
Languages: ENGLISH
Document type: Journal Article; Review; Review, Tutorial
Record type: Completed
Despite more than 25 years of extensive research the mortality of ARDS patients remains high. Besides the often deleterious course of the underlying disease, another reason for this high mortality lies in the aggressive ventilatory regimen which is required to maintain arterial blood gases in a more or less normal range. Therapeutic methods which are used to reduce iatrogenic damage to the lungs are pressure controlled ventilation with permissive hypercapnia, differential lung ventilation, positioning therapy, dehydration, and extracorporeal gas exchange with membrane lungs. Nevertheless, many of these patients still die following hypoxaemia or multiple organ failure. Therefore, the need remains to develop new therapeutic strategies and to investigate their influence on the morbidity and mortality of this life-threatening disease. **First experiences with nitric oxide (NO) inhalation, intravenous application of antioxidants, intratracheal instillation of surfactant, tracheal gas insufflation and combined fluid/gas ventilation with perfluorocarbon are presented. All these new methods have proved their efficacy, at least in animal studies, however, they should still be regarded as experimental.** (94 Refs.)
Record Date Created: 19951012

25/7/1
DIALOG(R)File 155:MEDLINE(R)
09493308 95289156 PMID: 7771247
Mechanisms of atherosclerosis: role of LDL oxidation.
Reaven PD

Department of Medicine, University of California, San Diego, La Jolla 92093, USA.
Advances in experimental medicine and biology (UNITED STATES) 1994, 366 p113-28, ISSN 0065-2598 Journal Code: 2LU
Languages: ENGLISH
Document type: Journal Article; Review; Review, Tutorial
Record type: Completed
(86 Refs.)
Record Date Created: 19950705

25/7/2
DIALOG(R)File 155:MEDLINE(R)
08283148 95056360 PMID: 7966891
Antioxidants, pro-oxidants, and their effects.
Herbert V
JAMA (UNITED STATES) Dec 7 1994, 272 (21) p1659-60, ISSN 0098-7484 Journal Code: KFR
Languages: ENGLISH
Document type: Letter
Record type: Completed
Record Date Created: 19941220

25/7/3
DIALOG(R)File 155:MEDLINE(R)
07728013 93360568 PMID: 1308046
Antioxidant systems--physiology and pharmacotherapy trends.
Grieb P
Medical Research Centre, Polish Academy of Sciences, Warsaw.
Materia medica Polona (POLAND) Oct-Dec 1992, 24 (4) p217-22, ISSN 0025-5246 Journal Code: LJY
Languages: ENGLISH
Document type: Journal Article; Review; Review, Tutorial
Record type: Completed
Metabolic processes connected with the effects of oxidation and antioxidation with participation of cellular energy are presented and therapeutic possibilities connected with coenzyme Q and N-acetylcysteine are discussed. (28 Refs.)
Record Date Created: 19930922

File 155:MEDLINE(R) 1966-2002/Mar W2

Set	Items	Description
S1	71320	R1:R5, R7:R13
S2	471	RESPIRATION(L)(TU OR TH)
S3	0	S1 AND S2
S4	13340	REACTIVE()OXYGEN()SPECIES
S5	4719	ROS
S6	35689	FREE()RADICAL? ?
S7	271263	RESPIRA?
S8	213839	INTRAVENOUS??
S9	211673	OXYGEN
S10	210931	HYDROGEN
S11	5653	METHANE
S12	4479	ETHANE
S13	2524	PROPANE
S14	1483	ACETYLENE
S15	15	FUEL()GAS??

S16 655 BUTANE
S17 5 OIL()VAPORS
S18 67460 NITROGEN
S19 55297 CARBON()DIOXIDE
S20 755 S1(L)(TU OR TH)
S21 222911 S10:S14
S22 378 S20 AND S21
S23 9 S7:S8 AND S22
S24 3 S4(L)(TU OR TH)
S25 3 S24 NOT S23
****

31/7/18 (Item 18 from file: 103)
DIALOG(R)File 103:Energy SciTec

00266675 ERA-02-047574; EDB-77-104867
Title: Study of the toxicity of small concentrations of various chemicals generated by the combustion of gas
Author(s): Le Loc'h, H.; Bertin, M.
Affiliation: Gaz de France, Paris
Title: Thirteenth world gas conference
Conference Title: 13. world gas conference
Conference Location: London, UK Conference Date: 7 Jun 1976
Publisher: International Gas Union,London
Publication Date: 1976 p 21p., Paper IGU/G1-76
Note: See CONF-760681--
Language: French
Abstract: In particular conditions, the combustion of gas (or any other fuel) generates chemicals which, without involving the risk of acute intoxication, can expose the gas users to a temporary pollution. **This communication is intended to recall to what extent these various pollutants are toxic at very low concentrations, (CO/sub 2/ - CO - NO/sub x/ - hydrocarbons - HCHO - CH/sub 3/CHO - CH/sub 3/COCH/sub 3/ - CH/sub 3/OH - CH/sub 2/ = CH CHO - free radicals - sulfur compounds)**. Then, it would be desirable to measure the concentrations of the pollutants which are found inside enclosures where gas apparatus are operated in normal conditions, and to compare these concentrations with toxicity thresholds.

37/7/7 (Item 7 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

12568022 BIOSIS NO.: 200000321524
Glutathione ethyl ester supplementation prevents mortality in newborn rats exposed to hyperoxia.
AUTHOR: Singhal Rakesh K; Jain Ajey
AUTHOR ADDRESS: (a)515 East 71st Street, Room S 614, New York, NY, 10021** USA
JOURNAL: Biology of the Neonate 77 (4):p261-266 May, 2000
MEDIUM: print
ISSN: 0006-3126
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English
SUMMARY LANGUAGE: English
ABSTRACT: Human premature neonates suffer from respiratory distress

syndrome due to immature lungs and require assisted ventilation with high concentrations of oxygen . **Hyperoxic exposure and/or antioxidant deficiency causes an increase in the lung levels of reactive oxygen species (ROS) leading to oxidative stress-induced cellular damage.** In this study, we explored the protective role of the nonenzymatic antioxidant glutathione, by **administering glutathione ethyl ester (GSHEE), in newborn rats exposed to hyperoxia (>95% FiO2). Our results show that GSHEE supplementation (5 mmol/kg/day) prevents mortality in newborn rats exposed to hyperoxia.** We further show that delayed GSHEE supplementation in newborn rats, pre-exposed to hyperoxia for 4 days, also prevents death. Electron microscopic studies on the lung of GSHEE-treated hyperoxic rats showed normal histology and an absence of the marked swelling and degeneration of mitochondria and lamellar bodies, which are typically observed in the hyperoxic lungs of newborn rats. Furthermore, there were no apparent differences in weight gain or general appearance/activity among room air and hyperoxic GSHEE-supplemented animals when monitored, post-treatment, in room air for 30 days. Our **results show a preventive/therapeutic role of GSHEE supplementation against mortality caused in newborn rats due to hyperoxic exposure, and may further be applicable to a variety of degenerative diseases that are caused as a result of ROS accumulation.**

37/7/8 (Item 8 from file: 73)
DIALOG(R)File 73:EMBASE

10807952 EMBASE No: 2000289603
Validation of a new technique to assess exhaled hydrogen peroxide: Results from normals and COPD patients
De Benedetto F.; Aceto A.; Dragani B.; Spacone A.; Formisano S.; Cocco R.; Sanguinetti C.M.
F. De Benedetto, Dept. of Pneumology, Via Carlo Forlanini 50, 66100 Chieti Italy
Monaldi Archives for Chest Disease (MONALDI ARCH. CHEST DIS.) (Italy) 2000, 55/3 (185-188)
CODEN: MACDE ISSN: 1122-0643
DOCUMENT TYPE: Journal; Article
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH
NUMBER OF REFERENCES: 11
Chronic airways inflammation in chronic obstructive pulmonary disease (COPD) induces the activation of several cell types with delivery of proteases and reactive oxygen species (ROS). Assessing oxidant content in the exhaled air of COPD patients has proven useful in monitoring airway inflammation. **The present study was designed to confirm the usefulness of exhaled hydrogen peroxide concentration determination in COPD patients using a new technique which allows longer storage of the expired air condensate before the Hinf 2Oinf 2 assay.** The technique was applied in 13 healthy nonsmoking subjects (six male, age range 22-40 yrs) and in seven patients (five male, age range 58-81 yrs) with mild or moderate COPD. Subjects breathed into a one-valve mouthpiece, and the exhaled air was directed into a vial kept at 0degreeC. After ~15 min of quiet breathing, 1 mL of expired air condensate was collected. An aliquot, 450 muL, of this sample was immediately added to an equal volume of a reaction mixture containing 2mM 3,5,3',5'-tetramethylbenzidine and 40 muL of enzyme stock solution (0.5 mg/mLsup -sup 1). After 15 min, 45 muL sulphuric acid was added (1 N final concentration), resulting in a reaction mixture pH of 1.0. After a further 10-min incubation, Hinf 2Oinf 2

concentration determination was performed spectrophotometrically at 450 nm. This solution, as well as the Hinf 2Oinf 2 assay, was stable for >=24 h if the sample was kept in the dark and at 4degreeC. There was high stability on repeated measures, with a coefficient of variation equal to zero. The mean+/-SD Hinf 2Oinf 2 level in exhaled air from normal subjects was 0.12+/-0.09 muM, whereas it was significantly increased in COPD patients (0.50+/-0.11 muM; p=0.0001 compared to healthy subjects). In three healthy control subjects, a normal Hinf 2Oinf 2 level in expired air increased to 0.70-0.80 muM during an acute upper respiratory tract infection. This new technique of hydrogen peroxide assay in expired air condensate greatly minimizes the inaccuracy deriving from the instability of hydrogen peroxide. **The preliminary results obtained using this technique provide direct evidence for increased reactive oxygen species production in the airways of stable chronic obstructive pulmonary disease patients.** However, the specificity of the procedure could be reduced by the interference of upper respiratory tract infections.

37/7/13 (Item 13 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

12059048 BIOSIS NO.: 199900353897
Antioxidant enzymes and their implications in pathophysiologic processes.
AUTHOR: Mates Jose M(a); Sanchez-Jimenez Francisca
AUTHOR ADDRESS: (a)Dep. Mol. Biol. Biochem., Fac. Sci., Univ. Malaga, Campus de Teatinos, s/n 29071, Malaga**Spain
JOURNAL: Frontiers in Bioscience 4 (CITED MARCH 16, 1999):pD339-345 March 15, 1999
DOCUMENT TYPE: Literature Review
RECORD TYPE: Abstract
LANGUAGE: English
ABSTRACT: Aerobic organisms possess antioxidant defense systems that deal with reactive oxygen species (ROS) produced as a consequence of aerobic respiration . Reactive oxygen is related to both, the arrest of growth and the start of cell differentiation. **Low concentrations of reactive oxygen intermediates may be beneficial or even indispensable in processes such as intracellular messaging and defense against micro-organisms, but higher amounts of active oxygen may be harmful to cells and organisms.** A wide array of non-enzymatic and enzymatic antioxidant defenses exists, including superoxide dismutase (SOD), glutathione peroxidase (GPX) and catalase (CAT). We describe their main characteristics and how these antioxidant enzymes work together against active oxygen. Small deviations from their physiological values may have a dramatic effect on the resistance of cells to oxidative damage to lipids, proteins and DNA. Consequently, toxic oxygen play a role in aging process as well as in a number of human diseases that we list in this review.

37/7/14 (Item 14 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

11911002 BIOSIS NO.: 199900157111
Lipid peroxidation during initiation of extracorporeal membrane oxygenation after hypoxia in endotoxemic rabbits.
AUTHOR: Trittenwein Gerhard(a); Rotta Alexandre T; Gunnarsson Bjorn; Steinhorn David M
AUTHOR ADDRESS: (a)Department Neonatology and Pediatric Intensive Care, University Children's Hospital Vienna, Wahr**Austria

JOURNAL: Perfusion (London) 14 (1):p49-57 Jan., 1999
ISSN: 0267-6591
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English
ABSTRACT: Initiation of extracorporeal membrane oxygenation (ECMO) in septic children with severe respiratory failure often improves oxygenation but not pulmonary function. **The factors affecting pulmonary function following onset of ECMO are not completely understood, but are thought to involve injury mediated, in part, by reactive oxygen species . We hypothesized that induction of ECMO using 100% oxygen as the sweep gas through the oxygenator would increase lipid peroxidation in endotoxin-primed animals after severe hypoxia, We further speculated that provision of oxygenated blood to the pulmonary circulation via venovenous ECMO would promote a greater degree of oxidative damage to the lung as compared to venoarterial ECMO.** Eighteen New Zealand White rabbits were assigned to a control group (control) or two intervention groups subjected to 60 min of venoarterial or venovenous ECMO. ECMO was initiated following an intravenous challenge with 0.5 mg/kg of E. coli endotoxin and a period of global hypoxia leading to an arterial pH of 6.99 +- 0.09, PaCO2 of 103 +- 31 mmHg and PaO2 of 27 +- 5 mmHg. Malondialdehyde (MDA), a marker of lipid peroxidation, was measured in lung tissue homogenates and in arterial plasma. Lung tissue MDA demonstrated a strong trend towards an increase in the venoarterial group (1884 +- 945 nmol/g protein) and in the venovenous group (1905 +- 758 nmol/g protein) in comparison to the control group (644 +- 71 nmol/g protein) (p = 0.1; significance at 95% in Scheffe test). Lung tissue MDA in the venovenous group had a significant correlation with mean PaO2 during ECMO by regression analysis (r2 = 0.678, p = 0.044). The change in blood MDA concentration between pre-ECMO and post-ECMO values was greater in the venovenous group (pre 1.62 +- 0.61 versus post 5.12 +- 0.2.07 mmol/l, p = 0.043) compared with that seen in the venoarterial group (pre 1.46 +- 0.38 versus post 3.9 +- 0.93 mmol/l). **Our data support the hypothesis that initiation of ECMO with a circuit gas oxygen concentration of 100% after global hypoxia enhances oxidative damage to lipids in endotoxin-challenged animals. During venovenous ECMO this finding is dependent on PaO2.**

37/7/15 (Item 15 from file: 155)
DIALOG(R)File 155:MEDLINE(R)
10212994 99323119 PMID: 10394807
Oxygen toxicity and tolerance.
Capellier G; Maupoil V; Boussat S; Laurent E; Neidhardt A
Reanimation Medicale, Faculte de Medecine et de Pharmacie, Besancon.
Minerva anestesiologica (ITALY) **Jun 1999**, 65 (6) p388-92, ISSN 0375-9393 Journal Code: N26
Languages: ENGLISH
Document type: Journal Article; Review; Review, Tutorial
Record type: Completed
Normobaric oxygen toxicity is well described in all animal species. However susceptibility to oxygen exposure is highly variable according to age, species and strains. **Similarly in humans, prolonged high oxygen exposure is reported to induce cough, shortness of breath, decrease vital capacity and increase alveolo-capillary permeability. The toxic FIO2 threshold (length of exposure and level) is still debated.** In patients with previous lung injury, this threshold is even more difficult to delineate as

pathologic pulmonary lesions might result from hyperoxia or primary lung insult. **Oxygen free - radicals play a key role in the pathophysiology of oxygen toxicity. Oxygen resistance or tolerance is obtained with intraperitoneal, intravenous and intratracheal endotoxin or cytokines administration. Previous exposure to high oxygen concentration is also reported to increase survival rate and decrease pulmonary lesions in animal models.** Protection may rely on antioxidant enzymes synthesis, nitric oxide production, neutrophils recruitment and modulation of alveolar macrophages activity. In humans, oxygen tolerance might be suspected through several clinical studies reporting favorable outcome after long term-oxygen exposure. Better knowledge of the risks of prolonged high oxygen exposure is important to re-evaluate the goals of mechanical ventilation (FIO2, SaO2, PEEP) and/or to develop treatments to prevent oxygen toxicity (surfactant, antioxidant enzymes). (51 Refs.)
Record Date Created: 19990810

37/7/26 (Item 26 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

11113972 BIOSIS NO.: 199799735117
Imbalance of oxygen activation and energy metabolism as a consequence or mediator of aging.
AUTHOR: Nohl Hans(a); Staniek Katrin; Gille Lars
AUTHOR ADDRESS: (a)Inst. Pharmacol. and Toxicol., Vet. Univ. Vienna, Josef Baumann-Gasse 1, 1210 Vienna**Austria
JOURNAL: Experimental Gerontology 32 (4-5):p485-500 1997
ISSN: 0531-5565
RECORD TYPE: Abstract
LANGUAGE: English
ABSTRACT: Ever increasing numbers of aging theories suggest that free radicals are only one factor among others that may initiate stochastic disorders finally terminating life. It is therefore compelling not only to demonstrate the existence of increasing steady-state concentrations of free oxygen radicals during senescence, but it is essential to show that they act in concert with other postulated triggering factors of aging. We have recently shown that various factors may have a life-long influence and challenge oxygen homeostasis of cell respiration . Among these factors are environmental pollutants, therapeutics, and transient hypoxia. Although the nature of these "hits" is different, mitochondrial respiration was found to respond in a similar manner to each of them. The major derangement was an univalent electron leak to oxygen giving rise to the establishment of oxidative stress. Associated with this transformation oxidative phosphorylation was impaired with the resultant reduction of cellular ATP. Mitochondria from senescent rats exhibited similar alterations of all cell parameters found when adult animals were exposed to "environmental stress" or transient ischemia. Age-related stimulation of mitochondrial oxygen radical generation is therefore suggested to result from accumulation of minihits during life. Based on our data, together with those from other laboratories, it is possible to assess the ranking order of oxygen radicals in the development of stochastic events associated with (or causing ?) aging.

37/7/32 (Item 32 from file: 73)
DIALOG(R)File 73:EMBASE

06956243 EMBASE No: 1997240811

Radical approach to the acute respiratory stress syndrome
Forni L.G.; Kelly F.J.; Leach R.M.
L.G. Forni, Dept. Intensive Care Renal Medicine, St. Thomas' Hospital, Lambeth Palace Road, London SE1 7EA United Kingdom
Redox Report (REDOX REP.) (United Kingdom) 1997, 3/2 (85-97)
CODEN: RDRPE ISSN: 1351-0002
DOCUMENT TYPE: Journal; Review
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH
NUMBER OF REFERENCES: 100

The acute respiratory distress syndrome continues to be a major medical problem. Despite recent advances in treatment, such as the use of nitrogen monoxide (NO), extracorporeal membrane oxygenation (ECMO) and specialized ventilatory techniques in maintaining adequate oxygenation, mortality still remains high. The presence of activated neutrophils coupled with high inspired oxygen concentrations provide conditions that favour increased oxidative stress and this has focused attention on **the possible role of free radical species in both the initiation and propagation of ARDS.** Although there is evidence implicating increased free radical activity in ARDS, much of this is from animal models and the role of intervention in such processes has not been established. **Although antioxidant therapy has been suggested as a possible treatment for ARDS the current literature is less than convincing. We examine the available data from human studies and suggest possible further studies and future therapeutic goals.**

37/7/39 (Item 39 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

10146372 BIOSIS NO.: 199698601290
Effect of varying inspired oxygen concentration on diaphragm glutathione metabolism during loaded breathing.
AUTHOR: Supinski G S(a); Nethery D; Ciufo R; Renston J; Di Marco A
AUTHOR ADDRESS: (a)Metrohealth Med. Cent., 2500 Metrohealth Drive, Cleveland, OH 44109**USA
JOURNAL: American Journal of Respiratory and Critical Care Medicine 152 (5 PART 1):p1633-1640 1995
ISSN: 1073-449X
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: Recent studies have suggested that loaded breathing elicits alterations in diaphragmatic glutathione levels that may be mediated by free radicals and may also be linked to the development of diaphragm fatigue. **While free - radical generation in a number of pathophysiologic conditions is known to be a function of ambient oxygen concentrations, the effect of varying inspired oxygen concentration on the diaphragmatic response to loaded breathing (i.e., on diaphragm fatigue and glutathione levels) has not been studied. In this study, we compared the effect of loaded breathing, continued until respiratory arrest in decerebrate rats breathing room air (RA), with the effect of the same load on animals breathing 100% oxygen (O-2).** After arrest, the animals' diaphragms were excised, force generation was assessed in vitro, and diaphragmatic levels of reduced glutathione (GSH) and oxidized glutathione (GSSG) were determined. Similar measurements were made on unloaded control animals. We found both similarities and differences in the response to loading in O-2- and RA-breathing animals. O-2-breathing loaded animals had a greater load endurance, lower blood pressure at the end of loading, higher carbon dioxide levels, and greater high-frequency fatigue at the conclusion of loaded trials than did RA-breathing

animals. The degree of low-frequency fatigue was similar, however, in the O-2- and RA-breathing loaded groups (i.e., twitch force averaged 7.9 +- 0.6, 8.4 +- 0.5, 3.8 +- 0.9, and 4.5 +- 0.8 N/cm-2, respectively, in the RA/unloaded, O-2/unloaded, RA/loaded, and O-2/loaded groups, p lt 0.001). There were also similar increases in GSSG/GSH ratios in O-2- and RA-breathing loaded animals (the ratios were 32.4 +- 4.8% and 25.1 +- 8.8%, respectively, in these groups, and 4.7 +- 0.9% and 4.2 +- 1.2% in unloaded O-2- and RA-breathing groups, p lt 0.002). **We therefore found that loaded breathing elicited severe low-frequency diaphragm fatigue and significant glutathione oxidation in this study, with the magnitude of these changes being independent of the inspired oxygen concentration.**

37/7/40 (Item 40 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
(c) 2002 BIOSIS. All rts. reserv.
09773716 BIOSIS NO.: 199598228634
Comparison of the effects of four i.v. anaesthetic agents on polymorphonuclear leucocyte function.
AUTHOR: Davidson J A H(a); Boom S J; Pearsall F J; Zhang P; Ramsay G
AUTHOR ADDRESS: (a)Univ. Dep. Anaesthesia, Royal Infirmary, Glasgow G31 2ER **UK
JOURNAL: British Journal of Anaesthesia 74 (3):p315-318 1995
ISSN: 0007-0912
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English
ABSTRACT: Initial resistance to bacterial infection is mediated primarily by polymorphonuclear leucocytes (PMN). Anaesthetic agents have been reported to impair various aspects of PMN function. It is possible that the use of these agents to sedate critically ill patients may further compromise an already depressed host defence mechanism. A flow cytometric technique with fresh whole blood from 10 healthy volunteers was used. Phagocytic and respiratory burst activity of PMN incubated for 1 h with either propofol, thiopentone, midazolam or ketamine at both clinical plasma concentrations and 100 times this concentration were determined. Thiopentone at the higher concentration reduced both respiratory burst activity (mean peak channel 50.7 compared with control value of 77.6 (P lt 0.0001)) and phagocytosis (mean peak channel 47.5 compared with 79.9 (P lt 0.0001)). Ketamine at 100 times the clinical plasma concentration also reduced respiratory burst and phagocytosis, but this failed to reach statistical significance (P = 0.10 and P = 0.053, respectively). No significant depression occurred in the other groups. **The results suggest that these i.v. anaesthetic agents, at clinically relevant concentrations, have minimal effects on PMN phagocytosis and oxygen free radical production. At higher concentrations thiopentone and ketamine may affect phagocytic function and thiopentone may impair intracellular cytolysis.**

37/7/52 (Item 52 from file: 73)
DIALOG(R)File 73:EMBASE
(c) 2002 Elsevier Science B.V. All rts. reserv.
05662182 EMBASE No: 1994060436
Immunity in cystic fibrosis
IMMUNITE ET MUCOVISCIDOSE
Bellon G.; Doring G.; Giudicelli J.; Gilly R.
Pediatre (PEDIATRE) (France) 1993, 29/138 (73-81)
CODEN: PEDTB ISSN: 0397-9180
DOCUMENT TYPE: Journal; Review
LANGUAGE: FRENCH SUMMARY LANGUAGE: ENGLISH; FRENCH

In cystic fibrosis (CF), immune defence mechanisms are initially normal and respond to the aggression of organisms attempting to colonize the abnormal respiratory tree (RT). The type specific and non specific immune responses bring about the local production of large amounts of neutrophile polymorphonuclear white blood cells (PN WBC). These in reversal secrete lysosomial enzymes and molecular oxygen free radicals , which contribute extensively to a greater degree than the specific effect of virulent bacterial strains, to the degradation of lung tissue. **In the event of chronic bacterial infection, functional impairment of the immune defence system, may result in high local concentrations of leucocyte protease and oxygen free radicals** . A vicious circle is thereby started, which results in perennial infection. Leucocyte elastase play a key role in this process. **Recent understanding of hypersensitivity as a response to chronic infection, suggests the adoption of a new policy in the treatment of CF, which should include the use of antiinflammatory agents and eventually of protease inhibitors**. In spite of the many unanswered questions concerning the immune response in CF patients, an appreciable progress has been made in the understanding of the host-parasite relation in these patients. In spite of the fig hopes raised by the appearance of gene therapy, further studies are still mandatory, in the field of immune response for the welfare of patients with advanced pulmonary impairment.

37/7/57 (Item 57 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

03510464 E.I. Monthly No: EIM9211-054342
Title: Blood substitutes made on the basis of perfluorocarbons inhibit intracellular energy generation.
Author: Reichelt, H.; Draffehn, J.; Ruediger, St.; Gross, U.; Lederer, S.; Sauer, Silvia; Baum, Rosemarie
Corporate Source: Military Medical Acad, Bad Saarow, Ger
Conference Title: 8th World Congress of the International Society for Artificial Organs in conjunction with the 4th International Symposium on Blood Substitutes
Conference Location: Montreal, Que, Can Conference Date: 19910819
E.I. Conference No.: 17132
Source: Biomaterials, Artificial Cells, and Immobilization Biotechnology v 19 n 2 1991. p 472
Publication Year: 1991
CODEN: BACBEU ISSN: 1055-7172
Language: English
Document Type: JA; (Journal Article) Treatment: X; (Experimental)
Journal Announcement: 9211
Abstract: Although perfluorocarbons are chemically inert, toxic reactions are observed on using them as fluorocarbon emulsions in blood substitutes. Studies on long-term survival after blood replacement with blood substitutes in conscious rats revealed that the animals showed pathobiochemical changes and died after 6-12 hours despite a high intraarterial oxygen pressure. These changes indicate a disturbance of intracellular energy generation, which is characterized by a decrease in ATP, and an increase in ADP, inorganic phosphate and lactate. Impurities in the perfluorocarbons and surfactant effects were excluded as causes of this disturbance. **The authors propose the following two hypotheses**: 1. storage of perfluorocarbons in mitochondrial membranes, which leads to an increased permeability of these membranes to protons, reduces the electrochemical potential necessary for synthesizing ATP by the proton-transporting ATPase; and **2. formation of free radicals by blood substitutes**

inhibits electron transport by cytochromes within the respiratory chain and leads to an increase in NADH and lactate despite increased oxygen concentration in the blood. (Edited author abstract)

37/7/60 (Item 60 from file: 155)
DIALOG(R)File 155:MEDLINE(R)
05416674 89370953 PMID: 2672691
Oxygen toxicity: an introduction.
Bostek CC
AANA journal (UNITED STATES) **Jun 1989,** 57 (3) p231-7, ISSN 0094-6354 Journal Code: 02P
Languages: ENGLISH
Document type: Journal Article; Review; Review, Tutorial
Record type: Completed
Although oxygen has been known to be toxic for more than 200 years, the clinical importance of oxygen toxicity was not appreciated until an epidemic of retrolental fibroplasia occurred in the early 1950s. **Oxygen at high partial pressures is toxic to the respiratory, cardiovascular, nervous, and gastrointestinal systems. Toxicity results from the formation of oxygen-free radicals** . These arise within mitochondria as oxygen is reduced to water, as byproducts of prostaglandin and thromboxane synthesis, and by the xanthine oxidase catalyzed reduction of xanthine or hypoxanthine. They are also produced by activated macrophages as part of the immune response. Superoxide anion is the radical most commonly produced. It dismutes to hydrogen peroxide, which is able to diffuse through lipid membranes. Hydrogen peroxide reacts with transition metals to produce the highly reactive hydroxyl radical which can initiate chain reactions of lipid peroxidation leading to cell rupture. **Oxygen radical scavengers such as superoxide dismutase and catalase protect the body against normal levels of oxygen-free radicals. Oxygen toxicity can result from either reperfusion of ischemic tissue or prolonged exposure to high concentrations of oxygen. Limiting hyperoxia to maintain arterial oxygen percent saturation (SaO2) greater than or equal to 90% is recommended. (37 Refs.)**
Record Date Created: 19891011

37/7/61 (Item 61 from file: 35)
DIALOG(R)File 35:Dissertation Abs Online

1070524 ORDER NO: NOT AVAILABLE FROM UNIVERSITY MICROFILMS INT'L.
GENERATION OF OXYGEN-DERIVED FREE RADICALS STIMULATED BY THE FUMIGANT INSECTICIDE PHOSPHINE: IN VIVO AND IN VITRO STUDIES
Author: BOLTER, CAROLINE JANE
Degree: PH.D.
Year: 1989
Corporate Source/Institution: THE UNIVERSITY OF WESTERN ONTARIO (CANADA) (0784)
ADVISER: W. CHEFURKA
Source: VOLUME 50/05-B OF DISSERTATION ABSTRACTS INTERNATIONAL. PAGE 1805.

Previous studies have shown that phosphine (PH$\sb3$) inhibits cytochrome oxidase and that a direct relationship exists between oxygen concentration during fumigation and insect mortality. **This study was undertaken to test the hypothesis that mortality is due to cumulative damage of cellular components by free radicals derived from superoxide (O$\sb2\sp\div)$ generated by the inhibited respiratory chain.**

Hydrogen peroxide $\rm(H\sb2O\sb2),$ a product a O$\sb2\sp\div$ dismutation, was measured spectrophotometrically using yeast cyctochrome c

peroxidase as an indicator. The respiratory inhibitors; PH$\sb3$, antimycin and myxothiazol stimulated the release of $\rm H\sb2O\sb2$ from mitochondria isolated from granary weevils (Sitophilus granarius). Peroxide release increased with the addition of α-glycerophosphate. It was concluded that glycerophosphate dehydrogenase was a source of $\rm H\sb2O\sb2$. The concentration of quinone, a major source of $\rm O\sb2\sp\div$, was low in granary weevils compared to other species and was unaltered after in vivo PH$\sb3$-treatment. Difference spectra, obtained using isolated inhibited mitochondria, provided information about sites of $\rm O\sb2\sp\div$ generation.

The effect of PH$\sb3$ on the antioxidant system of PH$\sb3$-sensitive (S) and resistant (R) insect was observed. Glutathione was not affected by fumigation (LD$\sb{70}$). Peroxidase activity, measured using p-phenylenediamine, was the same in S and R insects. After treatment (LD$\sb{30}$) activity was reduced by 65% in S and 45% in R insects. Catalase activity was significantly higher (62%) in S than R. It was inhibited by 34% in S insects after PH$\sb3$ treatment (LD$\sb{30}$) but unaffected in R insects. Superoxide dismutase activity was the same in S and R insects. Two isozymes were present. After fumigation of S insects, activity of the cyanide-sensitive isozyme increased two-fold while the cyanide-insensitive isozyme was not affected. No change was observed in R insects.

Damage to cellular components resulting from attack by oxygen-derived radicals was measured. Polyunsaturated fatty acid content was decreased relative to saturated fatty acid content after S insects were exposed to PH$\sb3$ in vivo. Sulphydryl group content was also decreased (31%) following fumigation while H+-ATPase activity was increased by 11%. A 30% decrease in ATPase activity was observed after isolated mitochondria were exposed to a free radical-generating system.

37/7/62 (Item 62 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

05763085 BIOSIS NO.: 000084111492
ANTIOXIDANT CAPACITY OF DESFERRIOXAMINE IN BIOLOGICAL SYSTEMS
AUTHOR: VIDELA L A; VILLENA M I; SALGADO C; CANALES P; LISSI E A
AUTHOR ADDRESS: UNIDAD DE BIOQUIMICA, DEP. DE CIENCIAS BIOL., DIV. DE CIENCIAS MED. OCCIDENTE, FAC. DE MED., UNIV. DE CHILE, CASILLA 33052-CORREO 33, SANTIAGO, CHILE.
JOURNAL: BIOCHEM INT 15 (1). 1987. 205-214. 1987
FULL JOURNAL NAME: Biochemistry International
CODEN: BIIND
RECORD TYPE: Abstract
LANGUAGE: ENGLISH
ABSTRACT: The antioxidant capacity of desferrioxamine (DF) was investigated in three biological systems. The addition of DF to rat brain homogenates undergoing autoxidation elicited a concentration dependent inhibition of both oxygen uptake and chemiluminescence, with a median inhibitory concentration (IC50) of 0.52 .mu.M. In this system, Fe3+-induced light emission was completely abolished at a DF/Fe3+ molar ratio of 0.6. In rat erythrocyte suspensions supplemented with t-butyl hydroperoxide, DF lengthened the induction period and decreased the rate of oxygen consumption, with an IC50 of 300 .mu.M. Infusion of increasing concentrations of DF to the perfused rat liver elicited a progressive decrease in the rate of oxygen consumption, with no alterations in the mitochondrial respiration . This DF-sensitive respiration has a maximal value of 200 nmol/g of liver/min, with a half-maximal rate at 120

.mu.M DF. **These results indicate that DF behaves as an efficient antioxidant either under basal conditions or in chemically-induced oxidative stress, through Fe3+ chelating and/or free - radical scavenging effects.**

37/7/71 (Item 71 from file: 41)
DIALOG(R)File 41:Pollution Abs
(c) 2002 Cambridge Scientific Abstracts. All rts. reserv.
058085 79-02525
The higher oxides of nitrogen: Inhalation toxicology.
Guidotti, T. L.
Johns Hopkins School of Hygiene and Public Health, Dept. of Environmental Health Sciences, 615 North Wolfe St., Baltimore, MD 21205
ENVIRONMENTAL RESEARCH 15(3), 443-472, Publ.Yr: June 1978 Coden: ENVRAL
illus. numerous refs. (Some in Fr.; Ger.) Abs.
Languages: ENGLISH
Doc Type: JOURNAL PAPER

The higher oxides of nitrogen (NO, NO2, and higher valence) are highly reactive compounds whose chemical properties result in direct oxidation, free radical formation, nitrosation, nitrite ion release, and paramagnetic interactions with heme. **Nitric oxide (NO) is formed from the oxidation of atmospheric N2 in the internal combustion engine and is converted to nitrogen dioxide (NO2), which in high concentrations, may result in a triphasic sequence of acute bronchospasm, delayed pulmonary edema, and late bronchiolitis obliterans. Low concentrations appear to induce pulmonary fibrosis with chronic exposure and to inhibit pulmonary defense mechanisms, particularly macrophage function and ciliary motility.** Animal and human population studies suggest that the greatest risk from low-dose, long-term exposure is reduced host resistance to viral and bacterial respiratory tract infections. The present national ambient air quality standard of 0.05 ppm for NO2 does not provide a large safety margin for this latter effect and should be reviewed. (AM)

37/7/73 (Item 73 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
(c) 2002 BIOSIS. All rts. reserv.
09628842 BIOSIS NO.: 199598083760
Free radical processes induced by desiccation in germinating maize: The relationship with respiration and loss of desiccation tolerance.
AUTHOR: Leprince O(a); Hendry G A F; Atherton N M
AUTHOR ADDRESS: (a)USDA-ARS Natl. Seed Storage Lab., 1111 S. Mason St., Fort Collins, CO 80521**USA
JOURNAL: Proceedings of the Royal Society of Edinburgh Section B (Biological Sciences) 102 (0):p211-218
ISSN: 0269-7270
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English
ABSTRACT: **Using germination of maize as a model, desiccation-induced free radical processes were studied with the object of understanding desiccation tolerance.** Several significant elements of damage were observed in desiccated material associated with development of desiccation intolerance: increased lipid peroxidation, phospholipid de-esterification, build-up of a stable free radical , suppression or repression of respiratory enzymes from complex I, II and IV. An EPR (electron paramagnetic resonance) response was also detected in isolated

mitochondria following in vitro desiccation. The loss of desiccation tolerance appeared to be dependent on oxygen concentration . Two highly significant correlations were independently found between respiration rates and production of a stable free radical detected by EPR. These data suggest that respiration is an important factor in the loss of desiccation tolerance. **We present a model suggesting that activated oxygen formation during desiccation originates in the disruption of the mitochondrial electron transport chain with increasing leakage to oxygen so generating irreversible and lethal peroxidative damage, leading to the development of desiccation intolerance.**

41/7/1 (Item 1 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

03193144 Genuine Article#: NL760 Number of References: 37
Title: ENDOGENOUS XANTHINE-OXIDASE DOES NOT SIGNIFICANTLY CONTRIBUTE TO VASCULAR ENDOTHELIAL PRODUCTION OF REACTIVE OXYGEN SPECIES
Author(s): PALERMARTINEZ A; PANUS PC; CHUMLEY PH; RYAN U; HARDY MM; FREEMAN BA
Corporate Source: UNIV ALABAMA,DEPT ANESTHESIOL,619 19TH ST S,THT946/BIRMINGHAM//AL/35233; UNIV ALABAMA,DEPT ANESTHESIOL/BIRMINGHAM//AL/35233; UNIV ALABAMA,DEPT BIOCHEM & MOLEC GENET/BIRMINGHAM//AL/35233; UNIV ALABAMA,DEPT PEDIAT/BIRMINGHAM//AL/35233; UNIV ALABAMA,DEPT MICROBIOL/BIRMINGHAM//AL/35233; UNIV ALABAMA,DEPT PHARMACOL/BIRMINGHAM//AL/35233; T CELL SCI INC/CAMBRIDGE//MA/02139; MONSANTO CO/ST LOUIS//MO/63167
Journal: ARCHIVES OF BIOCHEMISTRY AND BIOPHYSICS, 1994, V311, N1(MAY 15), P79-85
ISSN: 0003-9861
Language: ENGLISH Document Type: ARTICLE
Abstract: The contribution of xanthine oxidoreductase (XDH + XO) to the extracellular release of hydrogen peroxide (H2O2) and intracellular H2O2 concentration in cultured bovine aortic endothelial cells (BAEC) was determined. Intracellular H2O2 concentration was measured by the aminotriazole-mediated inactivation of catalase, while extracellular H2O2 release was measured by the horseradish peroxidase-mediated oxidation of p-hydroxyphenyl acetic acid to a fluorescent dimer. Supplementation of reaction systems with xanthine did not increase H2O2 production by cells. Inhibition of XO activity with allopurinol did not decrease either intracellular concentrations or the extracellular release of H2O2. Similarly, inactivation of XO by culture of cells with tungsten did not have any effect on intracellular levels of H2O2, while it increased extracellular release of H2O2 by 86 and 103% from cells cultured in Medium 199 (M199) and Dulbecco's modified Eagle's medium (DMEM), respectively. Cells cultured in DMEM had an average of 8 times greater XDH + XO specific activity, compared to M199 cultured cells, and had a threefold greater rate of release of H2O2 than M199-grown cells. However, DMEM-cultured cells did not have a greater rate of myxothiazole-resistant respiration , suggesting that this increase in H2O2 release comes from sources other than XO. These results show that cellular XO does not contribute significantly to basal H2O2 production in bovine endothelial cells. **Analysis of XDH + XO activity of endothelial cells derived from vessels of various species showed a relatively low specific activity of this potential oxidant source in human-derived cells compared with cells cultured from other species such as rodents.** (C) 1994 Academic Press, Inc.

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File   5:Biosis Previews(R) 1969-2002/Mar W1
File   6:NTIS 1964-2002/Mar W4
File  34:SciSearch(R) Cited Ref Sci 1990-2002/Mar W2
File  40:Enviroline(R) 1975-2002/Mar
File  41:Pollution Abs 1970-2002/Jan
File  50:CAB Abstracts 1972-2002/Feb
File  65:Inside Conferences 1993-2002/Mar W1
File  68:Env.Bib. 1974-2002/Feb
File  73:EMBASE 1974-2002/Mar W1
File  76:Life Sciences Collection 1982-2002/Jan
File  94:JICST-EPlus 1985-2002/Jan W4
File  99:Wilson Appl. Sci & Tech Abs 1983-2002/Jan
File 103:Energy SciTec 1974-2001/Sep B2
File 110:WasteInfo 1974-2001/Jun
File 144:Pascal 1973-2002/Mar W2
File 155:MEDLINE(R) 1966-2002/Mar W2
File 156:ToxFile 1966-2002/Feb W4
File 161:Occ.Saf.& Hth. 1973-1998/Q3
File 172:EMBASE Alert 2002/Mar W2
File 317:Chemical Safety NewsBase 1981-2002/Jan
File 337:CHEMTOX (R) Online 1998/Q3
File   8:Ei Compendex(R) 1970-2002/Mar W2
File 238:Abs. in New Tech & Eng. 1981-2002/Feb
File  77:Conference Papers Index 1973-2002/Jan
File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec
File  35:Dissertation Abs Online 1861-2002/Mar
Set     Items   Description
S1      67853   REACTIVE()OXYGEN()SPECIES
S2      29107   ROS
S3     262950   FREE()RADICAL? ?
S4    1807140   RESPIRA?
S5    1142450   INTRAVENOUS??
S6    2558614   OXYGEN
S7    1624833   HYDROGEN
S8     272309   METHANE
S9      67353   ETHANE
S10     65764   PROPANE
S11     63062   ACETYLENE
S12     86998   FUEL()GAS??
S13     30186   BUTANE
S14       317   OIL()VAPORS
S15   1854502   NITROGEN
S16    467819   CARBON()DIOXIDE
S17    313956   S1 OR S3
S18    324597   S1:S3
S19   2878522   S4:S5
S20     20261   S18 AND S19
S21   5773153   S6:S16
S22     14848   S20 AND S21
S23     14772   S17 AND S19 AND S21
S24     10999   S19(5N)S16
S25     67937   S19(5N)S21
S26      1379   S18(S)S25
S27         0   S12 AND S26
S28         0   S23 AND S12
S29        20   S18 AND S12
```

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S30         19   RD (unique items)
S31         19   Sort S30/ALL/PY,D
S32    6342443   CONCENTRAT????
S33     389005   S32(5N)S21
S34      10698   S19(S)S33
S35        218   S17(S)S34
S36         74   RD (unique items)
S37         74   Sort S36/ALL/PY,D
S38         74   S36 NOT S31
S39         48   S17/TI AND S34
S40          3   S39 NOT S35
S41          1   RD (unique items)
**************
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23/6,K/1 (Item 1 from file: 307)
DIALOG(R)File 307:(c) 2001 Royal Society of Chemistry. All rts. reserv.
00002385 Record Id: 1271
SUBSTANCE NAME: lead<OSTX>Pickerel frogs Rana palustris and bullfrogs Rana catesbeiana were exposed from the egg stage to lead-contaminated surface water from a trap and skeet range. 100% range water containted 840-3150 microg l(-1) with the filterable from accounting for ≈4-5% of the total. Hatching was not affected in either species. R. pallustris tadpoles exhibited 100 and 98% mortality after 10 days of exposure to 100 and 75% range water, respectively. Range water did not significantly effect the mortality of R. catesbeiana during 10 days of exposure. Exposure to lead in the range water did not adversely affect the growth of surviving tadpoles of either species after 10 wk. In both species the intestinal mucosa of tadpoles exposed to range water was reduced in thickness. R. palustris tadpoles that died in 100% range water had stunted tail growth, incurvation of the spine, hydropsy, and generally reduced body size (10). </OSTX>
SYNONYMS: C.I. 77575; C.I. pigment metal 4; lead flake
RECORD DATE: 01 Mar 2001
...TERATOGENICITY AND REPRODUCTIVE EFFECTS: of exposure numbers of motile sperm and epididymal sperm counts were reduced. An increase in reactive oxygen species was observed (via chemiluminescence) and a decrease in sperm-oocyte penetration rate (40). Sequentially administered...

23/6,K/2 (Item 2 from file: 307)
DIALOG(R)File 307:(c) 2001 Royal Society of Chemistry. All rts. reserv.
00002179 Record Id: 1260
SUBSTANCE NAME: hydrazine
SYNONYMS: diamide; Levoxin; Liozan; Ultra Pure; Deoxy-Sol; Scav-Ox
RECORD DATE: 01 Mar 2001
...METABOLISM AND TOXICOKINETICS: Significant part excreted unchanged or as acetylhydrazine in urine of dogs after subcutaneous, intraperitoneal or intravenous administration. Small amounts of diacetylhydrazine recovered from urine of treated rabbits, rats and mice but...
...phenobarbital in rats (35). Oxyhaemoglobin in erythrocytes and liver microsomal oxygenases can catalyse oxidation to nitrogen in vitro; diazene may be the intermediate (36). Rat liver cytochrome P450 implicated in formation of a free radical diazene precursor

during microsomal oxidation (35). 20-30% of radio-labelled hydrazine was converted into nitrogen in rats and mice and excreted via the lungs in the first 2 hr (32...
...ENVIRONMENTAL FATE: DEGRADATION: Co-metabolised to nitrogen gas by Nitrosomonas (12). Reduced to ammonia by nitrogenase isolated from Azobacter vinelandii (13). When...
...for 20% of the disappearance and there was no evidence of conversion into ammonia. Soil respiration was initially inhibited temporarily due to reduction of bacterial populations; CO2 production recovered after 2...

23/6,K/3 (Item 3 from file: 307)
DIALOG(R)File 307:(c) 2001 Royal Society of Chemistry. All rts. reserv.
00001674 Record Id: 2749
SUBSTANCE NAME: diquat dibromide
SYNONYMS: 6,7-dihydrodipyrido[1,2-a:2′,1′-c]pyrazinediium, dibromide; Reglone; Reglex
RECORD DATE: 01 Mar 2001
...METABOLISM AND TOXICOKINETICS: to tissues, in the rat. Increased biliary excretion of glutathione. Cell deaths were attributed to reactive oxygen species (8). Transport across human skin is poor, although it is better across rat skin (9). ...

23/6,K/4 (Item 4 from file: 307)
DIALOG(R)File 307:(c) 2001 Royal Society of Chemistry. All rts. reserv.
00001534 Record Id: 2634
SUBSTANCE NAME: 1,2-dimethylhydrazine
SYNONYMS: N,N′-dimethylhydrazine; sym-dimethylhydrazine; hydrazomethane; DMH; SDMH
RECORD DATE: 01 Mar 2001
...TOXICITY: of methylhydrazines. **It is suggested that the Cu(I)-peroxide complex rather than the methyl free radical plays a more important role in methylhydrazine plus Cu(II)-induced DNA damage (14).** Active...

23/6,K/5 (Item 1 from file: 337)
DIALOG(R)File 337:(c)2001 ClearCross Inc. All rts. reserv.
00005665
Chemical Name : ISOPROPYL CHLOROFORMATE
CAS Registry Number : 108-23-6
Record Last Updated : 08/20/96
REGULATORY INFORMATION----------

23/6,K/6 (Item 2 from file: 337)
DIALOG(R)File 337:(c)2001 ClearCross Inc. All rts. reserv.
00003672
Chemical Name : C.I. BASIC VIOLET 1
CAS Registry Number : 548-62-9
Record Last Updated : 06/06/97
IDENTIFIER INFORMATION----------

File 306:Pesticide Fact File 1998/Jun
File 307:DOSE
File 332:Material Safety Data Sheets - 2002/Q1
File 333:Material Safety Summary Sheets 2001/Q4
File 336:RTECS 2001/Q1

File 337:CHEMTOX (R) Online 1998/Q3

Set	Items	Description
S1	3	REACTIVE()OXYGEN()SPECIES
S2	20	ROS
S3	68	FREE()RADICAL? ?
S4	131131	RESPIRA?
S5	57985	INTRAVENOUS??
S6	26373	OXYGEN
S7	11028	HYDROGEN
S8	2780	METHANE
S9	3292	ETHANE
S10	4606	PROPANE
S11	179	ACETYLENE
S12	72	FUEL()GAS??
S13	1730	BUTANE
S14	8	OIL()VAPORS
S15	20120	NITROGEN
S16	94235	CARBON()DIOXIDE
S17	65	S1:S3 AND S4:S5
S18	116734	S6:S16
S19	59	S17 AND S18
S20	6	S17(S)S18
S21	24297	S4:S5(S)S18
S22	1	S1:S3(S)S21
S23	**6**	**S20 OR S22**

****

22/7/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2002 Derwent Info Ltd. All rts. reserv.
012011049
WPI Acc No: 1998-427959/199836
Rat and human thio-redoxin 2 protein(s) - useful as free radical scavenger and in protein repair
Patent Assignee: KAROBIO AB (KARO-N); KARO BIO AB (KARO-N); DEAN J P (DEAN-I)
Inventor: SPYROU G
Number of Countries: 023 Number of Patents: 005
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 9832863	A2	19980730	WO 98GB263	A	19980128	199836	B
AU 9857745	A	19980818	AU 9857745	A	19980128	199851	
EP 1012296	A2	20000628	EP 98901415	A	19980128	200035	
			WO 98GB263	A	19980128		
KR 2000070582	A	20001125	WO 98GB263	A	19980128	200131	
			KR 99706829	A	19990728		
JP 2001510997	W	20010807	JP 98531760	A	19980128	200150	
			WO 98GB263	A	19980128		

Priority Applications (No Type Date): GB 971710 A 19970128
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9832863	A2	E	48	C12N-015/53	

Designated States (National): AU CA JP KR US
Designated States (Regional): AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE

AU 9857745	A	C12N-015/53	Based on patent WO 9832863	

EP 1012296 A2 E C12N-015/53 Based on patent WO 9832863
Designated States (Regional): AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
KR 2000070582 A C12N-015/53 Based on patent WO 9832863
JP 2001510997 W 75 C12N-015/09 Based on patent WO 9832863
Abstract (Basic): WO 9832863 A

An isolated nucleic acid (I) comprises at least a portion of: (a) a 1276 base pair (bp) cDNA sequence encoding a 166 amino acid (aa) rat thioredoxin 2 (Trx2); or (b) a 501 bp cDNA sequence encoding a 167 aa human Trx2. Sequences are given in the specification. Also claimed are: (1) an isolated polynucleotide demonstrating at least 87.4% homology with (I); (2) a Trx2 protein or polypeptide encoded by (I) as above; (3) a mature Trx2 protein comprising aa 59-166 of the human or rat Trx2 sequences described above; (4) a plasmid or other vector comprising (I); (5) a host cell containing the plasmid or vector of (4); (6) a purified antibody that binds specifically to a rat or human Trx2 as described above; (7) a diagnostic probe comprising any portion of rat or human Trx2 as described above; (8) an organism engineered to contain or overexpress rat or a human Trx2 as described above; (8) an organism engineered to contain or overexpress rat or a human Trx2 as described above, and (9) an organism engineered to produce a Trx2 encoded by (I).

The engineered organism is a bacterium, yeast, rat or human. Trx2 proteins can be produced by biological or chemical means (claimed).

USE - **Trx2 proteins are translocated to mitochondria and are resistant to oxidation. Mitochondria are the sites of vital cellular functions such as lipid metabolism and aerobic respiration (oxidative phosphorylation). In respiration , incomplete reduction of dioxygen results in the formation of reactive oxygen intermediates (ROIs) (hydrogen peroxide, the superoxide anion O2, and the hydroxyl radical OH)**. Increased levels of ROIs, referred to as oxidative stress, can result in lipid peroxidation, inactivation of proteins and strand breakage in DNA. **Thioredoxin can act as an antioxidant molecule and scavenge hydroxyl radicals, reduce hydrogen peroxide and reactive proteins inactivated by oxidation**. More specifically, Trx2 may be used to protect against ischaemic damage (heart attacks and strokes), eye disease (acts as radio-protectant), radiation and drug toxicity.

Dwg.0/18

Derwent Class: B04; D16; P14; S03
International Patent Class (Main): C12N-015/09; C12N-015/53
International Patent Class (Additional): A01K-067/027; A61K-038/00; A61K-038/44; A61P-009/10; A61P-025/00; A61P-027/02; A61P-029/00; A61P-039/00; A61P-043/00; C07K-014/47; C07K-016/18; C07K-016/40; C12N-001/19; C12N-001/21; C12N-005/10; C12N-009/02; C12N-015/12; C12N-015/70; C12N-015/85; C12P-021/02; C12Q-001/68; G01N-033/53; G01N-033/68

22/7/2 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX

008403095
WPI Acc No: 1990-290096/199038
Use of nitroxide cpds. - for treating deleterious effects of harmful oxygen -derived species, esp. in oxidative stress
Patent Assignee: US DEPT OF COMMERCE (USDC); NAT INST OF HEALTH (USSH); US SEC OF COMMERCE (USDC); US DEPT HEALTH & HUMAN SERVICES (USSH)
Inventor: DEGRAFF W G; HAHN S; MITCHELL J B; SAMUNI A; DEGRAFF W
Number of Countries: 018 Number of Patents: 013

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 7494532	N	19900821	US 90494532	A	19900316	199038 B
WO 9113619	A	19910919				199140
AU 9175423	A	19911010				199201
EP 520005	A1	19921230	EP 91906494	A	19910318	199301
			WO 91US1778	A	19910318	
JP 5501114	W	19930304	JP 91506418	A	19910318	199314
			WO 91US1778	A	19910318	
AU 644865	B	19931223	AU 9175423	A	19910318	199407
EP 520005	A4	19930421	EP 91906494	A		199526
US 5462946	A	19951031	US 90494532	A	19900316	199549
			US 92859622	A	19920320	
CA 2078287	C	19961126	CA 2078287	A	19910318	199707
EP 787492	A1	19970806	EP 91906494	A	19910318	199736
			EP 97100145	A	19910318	
EP 520005	B1	19970827	EP 91906494	A	19910318	199739
			WO 91US1778	A	19910318	
			EP 97100145	A	19910318	
DE 69127437	E	19971002	DE 627437	A	19910318	199745
			EP 91906494	A	19910318	
			WO 91US1778	A	19910318	
JP 2741427	B2	19980415	JP 91506418	A	19910318	199820
			WO 91US1778	A	19910318	

Priority Applications (No Type Date): US 90494532 A 19900316; US 92859622 A 19920320

Cited Patents: 2.Jnl.Ref; WO 8805044; WO 8805653

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9113619	A				
Designated States (National): AU CA JP					
Designated States (Regional): AT BE CH DE DK ES FR GB GR IT LU NL SE					
EP 520005	A1	E	35	A61K-031/445	Based on patent WO 9113619
Designated States (Regional): AT BE CH DE DK ES FR GB GR IT LI LU NL SE					
JP 5501114	W		14	C07D-263/04	Based on patent WO 9113619
AU 644865	B			A61K-031/42	Previous Publ. patent AU 9175423
					Based on patent WO 9113619
US 5462946	A		1	A61K-031/445	Cont of application US 90494532
CA 2078287	C			A61K-031/42	
EP 787492	A1	E	25	A61K-031/445	Div ex application EP 91906494
					Div ex patent EP 520005
Designated States (Regional): AT BE CH DE DK ES FR GB GR IT LI LU NL SE					
EP 520005	B1	E	6	A61K-031/445	Related to application EP 97100145
					Related to patent EP 787492
					Based on patent WO 9113619
Designated States (Regional): AT BE CH DE DK ES FR GB GR IT LI LU NL SE					
DE 69127437	E			A61K-031/445	Based on patent EP 520005
					Based on patent WO 9113619
JP 2741427	B2		16	A61K-031/42	Previous Publ. patent JP 5501114
					Based on patent WO 9113619

Abstract (Basic): US 7494532 N

Treating the effects of oxidative stress due to the prodn. of harmful oxygen-derived species comprises administering a nitroxide cpd. R4R5N-R3 (I). In (I) R3= -O- radical or -OH; R4, R5 = opt. substd. cyclic or heterocyclic gps. or R4 and R5 together with the N form a heterocyclic gp.

Pref. (I) are of formula (Ia). R1=CH3; R2=C2H5, C3H7, C4H9, C5H11, CH2CH(CH3)2, CH(CH3)C2H5 or (CH2)7CH3 or R1 and R2 together form spirocyclopentane, spirocyclohexane, spirocycloheptane, spirocyclooctane, 5-cholestane or norbornane. (I) also include oxazolidine cpds. capable of forming an oxazolidine-1-oxyl and metal-independent nitroxides.

USE/ADVANTAGE - (I) exhibit low reactivity with oxygen itself and readily cross into the intracellular milieu. Their lipophilicity can be controlled by the addn. of organic substits., facilitating targeting to specific organs or organelles, where toxic oxygen -derived species are generated, to regions which are particularly susceptible to oxidative damage or to the brain. They can be used as protectants against e.g. ionising radiation, increased oxygen exposure so as to avoid e.g. pulmonary adult respiratory distress syndrom, oxygen -induced lenticular degeneration and hyaline membrane disease infants and against oxidative stress-induced cataracts. They can also be used to protect against oxidative stress in patients undergoing oxygen therapy or hyperbaric oxygen treatment. They can be used as reperfusion injury protectants for treating cardiovascular phenomena such as myocardial infarction and strokes, pancreatitis or intestinal ulceration; to protect patients receiving organ transplants and in organ preservation solns. **(I) can be used as protectants in animal or plant cell culture media, in stabilising labile chemical cpds. which undergo spontaneous degradation by generating free radicals , in neutralising free radicals which catalyse chain elongation during polymer formation, thereby terminating polymer elongation and as stabilisers for**

US 7494532 A

Treating the effects of oxidative stress due to the prodn. of harmful oxygen -derived species comprises administering a nitroxide cpd. R4R5N-R3 (I). In (I) R3= -O- radical or -OH; R4, R5 = opt. substd. cyclic or heterocyclic gps. or R4 and R5 together with the N form a heterocyclic gp.

Pref. (I) are of formula (Ia). R1=CH3; R2=C2H5, C3H7, C4H9, C5H11, CH2CH(CH3)2, CH(CH3)C2H5 or (CH2)7CH3 or R1 and R2 together form spirocyclopentane, spirocyclohexane, spirocycloheptane, spirocyclooctane, 5-cholestane or norbornane. (I) also include oxazolidine cpds. capable of forming an oxazolidine-1-oxyl and metal-independent nitroxides.

USE/ADVANTAGE - (I) exhibit low reactivity with oxygen itself and readily cross into the intracellular milieu. Their lipophilicity can be controlled by the addn. of organic substits., facilitating targeting to specific organs or organelles, where toxic oxygen -derived species are generated, to regions which are particularly susceptible to oxidative damage or to the brain. They can be used as protectants against e.g. ionising radiation, increased oxygen exposure so as to avoid e.g. pulmonary adult respiratory distress syndrom, oxygen -induced lenticular degeneration and hyaline membrane disease infants and against oxidative stress-induced cataracts. They can also be used to protect against oxidative stress in patients undergoing oxygen therapy or hyperbaric oxygen treatment. They can be used as reperfusion injury protectants for treating cardiovascular phenomena such as myocardial infarction and strokes, pancreatitis or intestinal ulceration; to protect patients receiving organ transplants and in organ preservation solns. (I) can be used as protectants in animal or plant cell culture media, in stabilising labile chemical

cpds. which undergo spontaneous degradation by generating free radicals , in neutralising free radicals which catalyse chain elongation during polymer formation, thereby terminating polymer elongation and as stabilisers for

Abstract (Equivalent): EP 520005 B

Use of a metal-independent nitroxide or an oxazolidine compound capable of forming an oxazolidineoxyl, or a physiologically-acceptable salt thereof, for the manufacture of a medicament for inducing weight reduction.

Dwg.0/1

Abstract (Equivalent): US 5462946 A

Pharmaceutical compsn. that is therapeutic for oxidative stress contains a metal-free nitroxide, an oxazolidine deriv. which has or forms a 1-oxyl function (N-OH or N-O), or their nontoxic salt as the active component, dispersed with the usual carriers and opt. additives, in the form of an aerosol, emulsion, suspension, ointment, cream, lotion, powder, tablet, capsule, suppository, etc..

USE/ADVANTAGE - The prods. are therapeutics for oxidative stress arising from excessive oxygen exposure, ionising radiation, chemotherapeutics, mutagens, diseases (including arthritis) and ageing. The prods. protect cells, tissues, organs and even whole organisms from free radicals , etc. produced during oxidative stress.

Dwg.0/9

Derwent Class: B03; B05; C02; C03; P34
International Patent Class (Main): A61K-031/42; A61K-031/445; C07D-263/04
International Patent Class (Additional): A23L-003/34; A61K-000/01; A61K-031/40; A61K-031/415; A61K-031/425; A61K-031/44; A61K-031/505; A61K-031/52; A61N-001/00; C09K-015/30

33/7/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2002 Derwent Info Ltd. All rts. reserv.
014295598 **Image available**
WPI Acc No: 2002-116301/200216
New heterocyclic amine compounds have calpain inhibiting and reactive oxygen species capturing activity, useful for treatment of inflammatory and immunological disorders
Patent Assignee: SCRAS SOC CONSEILS RECH & APPL SCI (SCRC)
Inventor: AUVIN S; CHABRIER DE LASSAUNIERE P E
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
FR 2800737	A1	20010511	FR 9913858	A	19991105	200216	B

Priority Applications (No Type Date): FR 9913858 A 19991105
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
FR 2800737	A1		41	C07D-413/12	

Abstract (Basic): FR 2800737 A1

NOVELTY - Heterocyclic amine compounds (I) are new.

DETAILED DESCRIPTION - Heterocyclic amine compounds of formula (I), their enantiomers, diastereoisomers, and racemic forms, are new.

Het=heterocyclyl;

R1=-OR3, SR3, oxy or a cyclic acetal;

R3=H or alkylcarbonyl, arylcarbonyl, or aralkylcarbonyl (all optionally alkyl or aryl substituted by alkyl, OH, alkoxy, nitro, CN, halo or NR4R5;

R4, R5=H or alkyl; or
NR4R5=optionally substituted heterocycle;
R2=H, alkyl, aralkyl, or aryl (optionally substituted by 1 or more OR6, NR7R8, halo, CN, nitro or alkyl);
R6-R8=H, alkyl, aryl, aralkyl, alkylcarbonyl or arylalkylcarbonyl;
A=a group of formula (i)-(v);
R9-R13=H, halo, OH, alkyl, alkoxy, CN, NO2 or NR16R16;
R15, R16=H, alkyl or COR17; or
NR15R16=optionally substituted heterocycle;
R17=H, alkyl, alkoxy or NR18R19;
R14=H, alkyl or COR20;
R20=H, alkyl, alkoxy or NR21R22;
W=absent, bond, O, S, NH or N-alkyl;
R24-R26=H, halo, OH, SH, S-alkyl, alkyl, alkenyl, alkoxy or NR28R29;
R28, R29=H, alkyl or COR30; or
R30=H, alkyl, alkoxy or NR31R32;
R18, R19, R21, R22, R31, R32=H or alkyl; or
NR18R19, NR21R22, NR28R29, NR31R32=optionally substituted heterocycle;
Q=OR33, SR33, NR34R35 or aryl (optionally substituted by 1 or more halo, OH, alkyl, alkoxy, CN, nitro or NR15R16);
R33=H or alkyl;
R34, R35=H, alkyl or CO-alkyl; or
NR34R35=optionally substituted heterocycle;
R37=H, alkyl or aralkyl;
T=methylene or ethylene;
R38=H, alkyl, aralkyl (aryl group optionally substituted by 1 or more OH, alkyl, halo, nitro, alkoxy or NR39R40), or -(CH2)q-NR39R40;
R39, R40=H, alkyl, or COR41; or
NR39R40=optionally substituted heterocycle;
R41=H, alkyl, alkoxy or NR42R43;
R42, R43=H or alkyl; or
NR42R43=optionally substituted heterocycle;
m=1-2;
R44=H, OH, alkyl or alkoxy;
X=-(CH2)n-, -(CH2)n-CO-, N(R45)-CO-(CH2)n-CO-, N(R45)-CO-D-CO-, -CH=CH-(CH2)n-CO-, N(R45)-CO-C(R46R47)-CO-, N(R45)-(CH2)n-CO-, CO-N(R45)- C(R46R47)-CO-, O-(CH2)n-CO-, or -S-(CH2)n-CO-;
D=phenylene (optionally substituted by alkyl, alkoxy, OH, nitro, halo or CN);
R45=H or alkyl;
R46, R47=H, alkyl, or aralkyl (aryl group optionally substituted by 1 or more OH, halo, nitro, alkyl, alkoxy or NR48R49);
R48, R49=H, alkyl or COR50; or
NR48R49=optionally substituted heterocycle;
R50=H, alkyl, alkoxy or NR51R52;
R51, R52=H or alkyl; or
NR51R52=optionally substituted heterocycle;
n=0-6;
Y=-(CH2)p-, C(R53R54)-(CH2)p-, or C(R53R54)-CO-;
R53, R54=H, alkyl or aralkyl (aryl group optionally substituted by 1 or more OH, halo, nitro, alkyl, alkoxy or NR55R56);
R55, R56=H, alkyl or COR57; or
NR55R56=optionally substituted heterocycle;
R57=H, alkyl, alkoxy or NR58R59;
R58, R59=H or alkyl; or
NR58R59=optionally substituted heterocycle; and

p=0-6;
provided that when Het=tetrahydrofuran or tetrahydropyran, R1=OH, R2=H and Y=bond, then X is not -CO-NH-CH2-CO-.
ACTIVITY - Antiinflammatory; Antiarthritic; Antirheumatic; Gastrointestinal; Cerebroprotective; Cardiant; Osteopathic; Hypotensive; Antibacterial; Cytostatic; Antiarteriosclerotic; Immunosuppressive; Ophthalmological; Virucide; Anti-HIV; Antidiabetic; Neuroprotective.
MECHANISM OF ACTION - Calpain inhibitor; Antioxidant.
Tests to determine calpain inhibition and antioxidant activities are disclosed, but no biological data is given.
USE - **For the treatment of** inflammatory and immunological disorders such as rheumatoid arthritis, gastrointestinal inflammation, and Crohn's disease; cardiovascular and cerebrovascular disorders such as arterial hypertension, septic shock, and cardiac infarction, central and peripheral nervous system disorders, osteoporosis, muscular dystrophy, proliferative disorders such as atherosclerosis, cataracts, organ transplants, autoimmune and viral disorders such as lupus and AIDS, diabetes, cancer, and **any disorder characterized by excessive production of reactive oxygen species** and/or calpain activation.
pp; 41 DwgNo 0/0
Derwent Class: B02; B03
International Patent Class (Main): C07D-413/12
International Patent Class (Additional): A61K-031/341; A61K-031/353; A61K-031/4025; A61K-031/404; A61K-031/42; A61K-031/422; A61P-009/00; A61P-025/00; A61P-029/00; A61P-031/00; A61P-035/00; A61P-037/00; C07D-263/04; C07D-263/24; C07D-307/22; C07D-405/12; C07D-407/12; C07D-263-04; C07D-311-70; C07D-413/12; C07D-307-22; C07D-209-40; C07D-207-22

33/7/3 (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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014220690 **Image available**
WPI Acc No: 2002-041388/200205
New 3-amino-2H-1,4-benzoxazine derivatives, are nitrogen monoxide synthase inhibitors, radical scavengers and antioxidants useful for treating neurodegenerative, inflammatory, autoimmune or cardiovascular diseases
Patent Assignee: SCHERING AG (SCHD)
Inventor: BURTON G A; HILLMANN M; HOELSCHER P; JAROCH S; JAUTELAT R; MCDONALD F M; REHWINKEL H; SUELZLE D
Number of Countries: 094 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 200181324	A1	20011101	WO 2001EP4282	A	20010412	200205	B

Priority Applications (No Type Date): DE 1021244 A 20000425
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200181324	A1	G	33	C07D-265/36	

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW
Abstract (Basic): WO 200181324 A1
NOVELTY - 3-Amino-2H-1,4-benzoxazine derivatives (I) are new.

DETAILED DESCRIPTION - Benzoxazine or benzothiazine derivatives of formula (I) and their tautomers, isomers and salts are new.

X=O or S;

R1=-(CHR9)n-N(R7)-A-N(R8)-B, -(CHR9)n-N(R8)-B or -(CHR9)n-B;

R2=H;

or R1 + R=group completing a fused 5-8 membered mono- or bicyclic, saturated or unsaturated ring system (optionally having 1 or 2 CH2 groups replaced by O or CO), substituted by -(CHR9)r-N(R7)-A-N(R8)-B, -(CHR9)r-N(R8)-B or -(CHR9)n-B;

R3=H or NR15R16;

R4=H or acyl;

R5, R6=H; or 3-7C cycloalkyl, phenyl, alkyl, 2-6C alkenyl or 2-6C alkynyl (all optionally substituted by halo, OH, alkoxy, SH, alkylthio, NR15R16, 5- or 6-membered heteroaryl (containing 1-3 of N, O and S), phenyl or 3-7C cycloalkyl);

R7, R8=H, alkyl (optionally substituted by phenyl), alkoxycarbonyl or alkylcarbonyl;

or R7 together with the adjacent N=5-7 membered saturated heterocycle (optionally containing a further O, S or N);

or R8 together with the adjacent N=5-7 membered saturated heterocycle (optionally containing a further O, S or N) or unsaturated 5-membered heterocycle containing 1-3 N;

A=optionally branched 1-6C alkylene or -(CH2)p-Q-(CH2)q-;

B=group of formula (B1) or (B2);

Q=3-7C cycloalkyl, indanyl, 5-7 membered saturated heterocycloalkyl (containing 1 or 2 of N, O and S), 6-10C aryl or 5- or 6-membered heteroaryl (containing 1-3 of N, O and S);

m, n, p, q, r=0-6;

R9, R10=H or alkyl;

R11, R12=H, OH, alkyl or alkoxy;

R15, R16=H, alkyl, phenyl or benzyl;

or NR15R16=saturated 5-7 membered ring (optionally containing a further N, O or S and optionally substituted by 1-4C alkyl, phenyl, benzyl or benzoyl);

alkyl moieties have 1-6C unless specified otherwise.

INDEPENDENT CLAIMS are included for:

(i) the preparation of (I); and

(ii) (thi)oxo or enol (thio)ether intermediates of formula (IIA) or (IIB) and their salts as new compounds.

Z=O or S; and

R=alkyl.

ACTIVITY - Neuroprotective; antiinflammatory; immunosuppressive; cardiant; antiparkinsonian; anticonvulsant; antiemetic; hypnotic; neuroleptic; antidepressant; tranquillizer; analgesic; antimigraine; antidiabetic; nootropic; anti-HIV; hypertensive; respiratory ; antibacterial; antirheumatic; antiarthritic; osteopathic; nephrotropic; hepatotropic; antipsoriatic.

MECHANISM OF ACTION - Nitrogen monoxide synthase (NOS) inhibitor; antioxidant; radical scavenger.

USE - (I) are used for treating diseases associated with nitrogen monoxide synthase (claimed) and/or reactive oxygen species , specifically neurodegenerative, inflammatory, autoimmune or cardiovascular diseases such as multiple sclerosis, amyotrophic lateral sclerosis (and similar sclerotic diseases), Parkinson's disease, Huntington's disease, Korsakoff's disease, epilepsy, emesis, sleeping disorders, schizophrenia, depression, stress, pain, migraine,

hypoglycemia, dementia (e.g. Alzheimer's disease, HIV dementia or pre-senile dementia), hypotension, adult respiratory distress syndrome, sepsis, septic shock, rheumatoid arthritis, osteoarthritis, insulin-dependent diabetes mellitus, inflammatory bowel disease, meningitis, glomerulonephritis, acute or chronic liver disease, rejection reactions (e.g. of heart, liver or kidney transplants) or inflammatory skin diseases (e.g. psoriasis).

pp; 33 DwgNo 0/0

Derwent Class: B02

International Patent Class (Main): C07D-265/36

International Patent Class (Additional): A61K-031/538; A61K-031/5415; C07D-279/16; C07D-413/12

33/7/8 (Item 8 from file: 350)

DIALOG(R)File 350:Derwent WPIX

013773413 **Image available**

WPI Acc No: 2001-257624/200126

New substituted aromatic amide compounds are allosteric hemoglobin modifiers, useful for delivering more oxygen to hypoxic and ischemic tissues by reducing oxygen affinity of hemoglobin in blood

Patent Assignee: ALLOS THERAPEUTICS INC (ALLO-N); UNIV VIRGINIA COMMONWEALTH (UYVI-N)

Inventor: ABRAHAM D J; DANSO-DANQUAH R; GRELLA M; HOFFMAN S J; JOSHI G S; KULKARNI S; SAFO M; YOUSSEF A

Number of Countries: 093 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 200114316	A1	20010301	WO 2000US23029	A	20000823	200126	B
AU 200067967	A	20010319	AU 200067967	A	20000823	200136	

Priority Applications (No Type Date): US 2000176635 P 20000119; US 99150351 P 19990824

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200114316	A1	E	97	C07C-229/02	

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW

AU 200067967	A		C07C-229/02	Based on patent WO 200114316

Abstract (Basic): WO 200114316 A1

NOVELTY - Amide compounds (I) are new.

DETAILED DESCRIPTION - Amide compounds of formula (I) are new.

R1 - R10=1-6C alkyl, 1-6C alkoxy, carbon ring connecting any 2 R1 - R5, or halo; and

R6 - R10=optionally substituted by -OC(R11)(R12)COOR13;

CR11R12=5-6 membered carbocyclic ring (substituted by alkyl), 5 membered heterocyclic ring (substituted by alkyl) or 6 membered heterocyclic ring; and

R13=H, inorganic cation, organic cation, metal cation or ammonium cation.

INDEPENDENT CLAIMS are also included for:

(1) purified (+)-isomer of (I);

(2) purified (-)-isomer of (I);

(3) amide compound of formula (II);
(4) amide compound of formula (III); and
(5) amide compound of formula (IV).
R14=OH or 1-5C alkoxy;
R20 - R24, R25 - R33,=1-6C alkyl, 1-6C alkoxy or halo;
at least 1 R20 - R24=substituted by -OC(R15)(R16)COOR17;
at least 1 R25 - R29=substituted by a group of formula (i);
at least 1 R30 - R33=substituted by -OC(R34)(R35)COOR17;
R15, R16=1-5C alkyl, 1-5C alkoxy, H, phenyl or aryl; or
CR15R16=5-6 membered carbo- or heterocyclic ring (all substituted by alkyl);
R17=H, inorganic cation, organic cation, metal cation or ammonium cation;
R18=H, Me, i-Pr, benzyl, i-Bu, s-Bu, (CH2)2COOH, CH2COOH, CH2-tryptophan, CH2-indole, CH2PhOH, CH2OH, CH2SMe, SMe3, (CH2)3, CH2SCH2Ph, CH(OH)Me, (CH2)4NHOCOCH2Ph or (CH2)4NH2; and
R19=H or 1-5C alkyl.
ACTIVITY - Cerebroprotective; vasotropic; thrombolytic; anticoagulant; vulnerary; neuroprotective; nootropic; neuroleptic; cytostatic; antidiabetic; antiulcer; immunosuppressant; antibacterial; antianginal; cardiant.
MECHANISM OF ACTION - Allosteric effectors of hemoglobin in blood.
Compound (Ib) had P50 value (partial pressure of O2 required to half-saturate hemoglobin) in vitro of 1.2.
USE - The compounds are allosteric hemoglobin modifiers, **for use in radiation oncology (by delivering more oxygen to tumors, increasing free radical formation and hence tumor killing during radiation)**, to limit hypothermia, for resuscitation from hemorrhagic shock, to aid wound healing, diabetic ulcers, chronic leg ulcers, pressure sores and tissue transplants, and for destruction of bacteria, to treat strokes, angina, thrombosis, Alzheimer's disease and acute respiratory disease syndrome (ARDS). The compounds are also useful for underwater exploration by increasing delivery of oxygen , thereby increasing dive time for underwater divers.
pp; 97 DwgNo 0/0
Derwent Class: B05
International Patent Class (Main): C07C-229/02
International Patent Class (Additional): C07C-229/50; C07C-309/08; C07C-311/02

33/7/13 (Item 13 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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013131321 **Image available**
WPI Acc No: 2000-303192/200026
Iminomethyl amine derivatives as NO synthases and reactive oxygen species inhibitors, for treating e.g. cardiovascular, cerebrovascular, peripheral and central nervous system, muscular or neuromuscular
Patent Assignee: SCRAS SOC CONSEILS RECH & APPL SCI (SCRC)
Inventor: AUVIN S; BIGG D; DE LASSAUNIERE P C; HARNETT J; ULIBARRI G; CHABRIER DE LASSAUNIERE P; CHABRIER DE LASSAUNIERE P E; BIGG D C H
Number of Countries: 087 Number of Patents: 007
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 200017191	A2	20000330	WO 99FR2251	A	19990922	200026	B
FR 2784678	A1	20000421	FR 9811867	A	19980923	200027	
AU 9956315	A	20000410	AU 9956315	A	19990922	200035	

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NO 200101478    A    20010322  WO 99FR2251      A   19990922  200137
                                NO 20011478      A   20010322
BR 9913899      A    20010703  BR 9913899       A   19990922  200141
                                WO 99FR2251      A   19990922
EP 1115720      A2   20010718  EP 99943025      A   19990922  200142
                                WO 99FR2251      A   19990922
CZ 200101056    A3   20020116  WO 99FR2251      A   19990922  200215
                                CZ 20011056      A   19990922
Priority Applications (No Type Date): FR 9811867 A 19980923
Patent Details:
Patent No  Kind Lan Pg   Main IPC     Filing Notes
WO 200017191  A2 F  73 C07D-333/38
   Designated States (National): AE AL AM AT AU AZ BA BB BG BR BY CA CH CN
   CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ
   LC LK LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL
   TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
   Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR
   IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW
FR 2784678    A1       C07D-333/50
AU 9956315    A        C07D-333/38   Based on patent WO 200017191
NO 200101478  A        C07D-333/38
BR 9913899    A        C07D-333/38   Based on patent WO 200017191
EP 1115720    A2 F     C07D-333/38   Based on patent WO 200017191
   Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT
   LI LT LU LV MC MK NL PT RO SE SI
CZ 200101056  A3       C07D-333/38   Based on patent WO 200017191
Abstract (Basic): WO 200017191 A2
        NOVELTY - N-(Iminomethyl)amine derivatives (I) are new.
        DETAILED DESCRIPTION - N-(Iminomethyl)amine derivatives of formula
    (I) and their salts are new.
        G=a bond or a phenylene group to which are attached, in addition to
    the two indicated bonds, H, halogen, OH, or 1-6C alkyl or alkoxy;
        A=a radical of formulae (i) or (ii);
        R1-R5=H, halogen, OH, 1-6C alkyl, 1-6C alkoxy, CN, NO2, or NR6R7;
        R6, R7=H, OH, 1-6C alkyl, 1-6C alkoxy or -COR8;
        R8=H, OH, 1-6C alkyl, 1-6C alkoxy or NR9R10;
        R9, R10=H, OH or 1-6C alkyl;
        R11=H, OH, 1-6C alkyl, 1-6C alkoxy or -COR12;
        R12=H, OH or 1-6C alkyl;
        B'=-CH2-NO2, 1-6C alkyl, 5-6 membered carbocyclic or heterocyclic
    aryl, (the heterocycle having 1-4 O, N, or S atoms, optionally
    substituted by 1-6C alkyl, 1-6C alkoxy or 2-6C alkenyl), or NR13R14;
        R13, R14=H or 1-6C alkyl, CN or NO2; or
        NR13R14=form 5- or 6-membered non-aromatic heterocycle comprising
    CH2, NH, O or S;
        W'=single bond, O, S, NR15 or does not exist;
        R15=H or 1-6C alkyl;
        X=-(CH2)k-NR16-, -O-, -S-, -CO-, -NR16-CO-, -CO-NR16-, -OCO-,
    -CO-O-, -NR16-CO-O-or -NR16-CO-NR17-;
        k=0 or 1;
        Y'=-(CH2)m-, -(CH2)m-O-(CH2)n-, -(CH2)m-S-(CH2)n-,
    -(CH2)m-NR18-(CH2)n-, -(CH2)m-NR18-CO-(CH2)n-, -(CH2)m-CO-NR18-(CH2)n-,
    or -(CH2)m Q-(CH2)n-;
        Q=piperazine, homopiperazine, 2-methyl piperazine, 2,5-dimethyl
    piperazine, 4-oxy piperidine, or 4-amino piperidine;
        m, n=0-6; and
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R16-R18=H or 1-6C alkyl.
INDEPENDENT CLAIMS are also included for the compounds of formula A-X-Y-G-T (IS) and A-N(R16)-CO-(CH2)m-NH(T') (IS').
T=NO2 or NH2;
T'=H or carbamate type protecting group.
ACTIVITY - Cytostatic; antiinflammatory; antiarteriosclerotic; respiratory ; antipsoriatic; antirheumatic; antiarthritic; antiasthmatic; antiallergic; cardiant; vasotropic; analgesic; hypotensive; antibacterial; immunosuppressive; neuroprotective; nootropic; anticonvulsant; antidrug; antiaddictive; ophthalmological; antiviral. Cerebellum of Sprague-Dawley rats was tested to determine the inhibitory activity of (I) on the transformation of NO synthase of (3H)L-arginine in (3H)L-citrulline according to the method of Bredt ant Snyder (Proc. Natl. Acad. Sci. USA, (1990) 87, 682-685). (I) gave IC50 of less than 3.5 microM.
MECHANISM OF ACTION - NO synthase inhibitors and trappers of reactive oxygen species .
USE - (I) are useful for treating proliferative and inflammatory disorders including atherosclerosis, respiratory distress, psoriasis, and rheumatoid arthritis, pulmonary disorders including asthma, sinusitis, and rhinitis, cardiovascular and cerebrovascular disorders including migraine, hypertension, septic shock, cardiac infarction, and ischemia, peripheral and central nervous system disorders including neurodegenerative diseases, senile dementia, Alzheimer's, Huntington's, prion-related disorders, and addictions, skeletal muscle disorders, cataracts, auto-immune and viral disorders, cancer, neurological disorders, and they are also useful in organ transplants.
pp; 73 DwgNo 0/0
Derwent Class: B02
International Patent Class (Main): C07D-333/38; C07D-333/50
International Patent Class (Additional): A61K-031/38; A61K-031/381; A61K-031/538; A61K-031/5415; A61P-025/00; A61P-039/06; C07D-265/38; C07D-279/20; C07D-279/36; C07D-409/12; C07D-413/12; C07D-417/12; C07D-417/14

File 350:Derwent WPIX 1963-2001/UD,UM &UP=200216
File 344:CHINESE PATENTS ABS APR 1985-2001/Dec
File 347:JAPIO Oct/1976-2001/Nov(Updated 020305)
File 371:French Patents 1961-2002/BOPI 200209

Set	Items	Description
S1	160	REACTIVE()OXYGEN()SPECIES
S2	501	ROS
S3	15066	FREE()RADICAL? ?
S4	20848	RESPIRA?
S5	17441	INTRAVENOUS??
S6	238049	OXYGEN
S7	249343	HYDROGEN
S8	60166	METHANE
S9	29284	ETHANE
S10	40645	PROPANE
S11	14106	ACETYLENE
S12	14576	FUEL()GAS??
S13	18639	BUTANE
S14	20	OIL()VAPORS
S15	163580	NITROGEN
S16	44245	CARBON()DIOXIDE
S17	15660	S1:S3

S18 37381 S4:S5
S19 723640 S6:S16
S20 103 S17 AND S18 AND S19
S21 571 S18(3N)S19
S22 2 S20 AND S21
S23 0 S17 AND S18 AND S12
S24 574333 S6:S12
S25 3214 S17 AND S24
S26 99 S18 AND S25
S27 2021 S17(S)S24
S28 75 S26 AND S27
S29 364400 CONCENTRAT?
S30 20 S28 AND S29
S31 20 S30 NOT S22
S32 20 IDPAT (sorted in duplicate/non-duplicate order)
S33 20 IDPAT (primary/non-duplicate records only)
****

25/3,AB/2 (Item 2 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

01097967
Inhibition of LDL oxidation and atherosclerosis
Hemmung der LDL Oxidation und der Atherosclerose
Inhibition de l'oxidation de LDL et de l'atherosclerose
PATENT ASSIGNEE:
ELI LILLY AND COMPANY, (204942), Lilly Corporate Center, Indianapolis, Indiana 46285, (US), (Applicant designated States: all)
INVENTOR:
Zuckerman, Steven Harold, 7710 Wawasee Drive, Indianapolis, Indiana 46250, (US)
LEGAL REPRESENTATIVE:
Tapping, Kenneth George et al (52303), Eli Lilly and Company Limited, Lilly Research Centre, Erl Wood Manor, Windlesham Surrey GU20 6PH, (GB)
PATENT (CC, No, Kind, Date): EP 963756 A2 991215 (Basic)
EP 963756 A3 991222
APPLICATION (CC, No, Date): EP 98201404 941219;
PRIORITY (CC, No, Date): US 170606 931221
DESIGNATED STATES: AT; BE; CH; DE; DK; ES; FR; GB; GR; IE; IT; LI; LU; NL; PT; SE
EXTENDED DESIGNATED STATES: LT; SI
RELATED PARENT NUMBER(S) - PN (AN):
EP 664121 (EP 94309461)
INTERNATIONAL PATENT CLASS: A61K-031/445; A61K-031/40
ABSTRACT EP 963756 A3
Methods of inhibiting LDL oxidation, atherosclerosis, advanced glycosylation end products, and superoxide anions and other reactive oxygen intermediates, comprising administering to a human or other mammal in need of treatment an effective amount of a compound having the formula wherein
R1)) and R3)) are independently **hydrogen**, -CH3)), or wherein Ar is optionally substituted phenyl;
R2)) is and pharmaceutically acceptable salts and solvates thereof.
ABSTRACT WORD COUNT: 66
LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

```
Available Text  Language   Update    Word Count
      CLAIMS A  (English)  9950         65
      SPEC A    (English)  9950       2538
Total word count - document A         2603
Total word count - document B            0
Total word count - documents A + B    2603

 25/3,AB/8     (Item 8 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
(c) 2002 European Patent Office. All rts. reserv.
00608220
NOVEL CARDIOPROTECTIVE AGENTS
NEUE KARDIOPROTEKTIVE WIRKSTOFFE
NOUVEAUX AGENTS CARDIOPROTECTEURS
PATENT ASSIGNEE:
  MERRELL PHARMACEUTICALS INC., (433654), 2110 East Galbraith Road, P.O.
    Box 156300, Cincinnati, Ohio 45215-6300, (US), (applicant designated
    states: AT;BE;CH;DE;DK;ES;FR;GB;GR;IE;IT;LI;LU;MC;NL;PT;SE)
INVENTOR:
  GRISAR, J., Martin, Lotissement Wingersbach 7, rue de Mulhouse, F-67160
    Wissembourg, (FR)
  PETTY, Margaret, A., 2, allee de la Robertsau, F-67000 Strasbourg, (FR)
  BOLKENIUS, Frank, Bierkellerstrasse 15B, D-7640 Kehl, (DE)
LEGAL REPRESENTATIVE:
  Gillard, Marie-Louise et al (15871), Cabinet Beau de Lomenie 158, rue de
    l'Universite, 75340 Paris Cedex 07, (FR)
PATENT (CC, No, Kind, Date):  EP 635010  A1  950125 (Basic)
                              EP 635010  B1  961211
                              WO 9320058  931014
APPLICATION (CC, No, Date):   EP 93907332 930308;  WO 93US2102  930308
PRIORITY (CC, No, Date): EP 92400957 920406
DESIGNATED STATES: AT; BE; CH; DE; DK; ES; FR; GB; GR; IE; IT; LI; LU; MC;
  NL; PT; SE
INTERNATIONAL PATENT CLASS: C07D-311/24; C07D-311/22; C07D-493/08; A61K-031/35;
NOTE:  No A-document published by EPO
LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:
Available Text  Language   Update    Word Count
      CLAIMS B  (English)  EPAB96       429
      CLAIMS B   (German)  EPAB96       438
      CLAIMS B   (French)  EPAB96       543
      SPEC B    (English)  EPAB96      6767
Total word count - document A            0
Total word count - document B         8177
Total word count - documents A + B    8177

 25/3,AB/10     (Item 10 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
(c) 2002 European Patent Office. All rts. reserv.
00451195
CYTOPROTECTIVE  COMPOUNDS  BEARING UNSATURATED HYDROCARBON GROUPS HAVING 16
    TO 20 CARBON ATOMS
CYTOPROTEKTIVE  SUBSTANZEN MIT UNGESATTIGTEN KOHLENWASSERSTOFFRESTEN VON 16
    BIS 20 KOHLENSTOFFATOME
COMPOSES  CYTOPROTECTEURS  PORTANT  DES GROUPEMENTS HYDROCARBONES INSATURES
    AYANT DE 16 a 20 ATOMES DE CARBONE
```

PATENT ASSIGNEE:
VIRGINIA COMMONWEALTH UNIVERSITY, (1257620), Box 568, MCV Station, Richmond, VA 23298-0568, (US), (Proprietor designated states: all)
INVENTOR:
FRANSON, Richard, C., 11812 Britain Way, Richmond, VA 23233, (US)
OTTENBRITE, Raphael, M., 2781 E. Brigstock Road, Midlothian, VA 23113, (US)
LEGAL REPRESENTATIVE:
Bizley, Richard Edward et al (28352), Hepworth, Lawrence, Bryer & Bizley Merlin House Falconry Court Baker's Lane, Epping Essex CM16 5DQ, (GB)
PATENT (CC, No, Kind, Date): EP 490919 A1 920624 (Basic)
EP 490919 A1 930421
EP 490919 B1 010117
WO 9103512 910321
APPLICATION (CC, No, Date): EP 90912813 900816; WO 90US4615 900816
PRIORITY (CC, No, Date): US 399941 890829
DESIGNATED STATES: AT; BE; CH; DE; DK; ES; FR; GB; IT; LI; LU; NL; SE
INTERNATIONAL PATENT CLASS: C08H-003/00; C11C-001/00; C07D-207/00; C07D-333/38; C07C-069/732
NOTE: No A-document published by EPO
LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	200103	708
CLAIMS B	(German)	200103	631
CLAIMS B	(French)	200103	766
SPEC B	(English)	200103	9352
Total word count - document A			0
Total word count - document B			11457
Total word count - documents A + B			11457

25/3,AB/33 (Item 33 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
(c) 2002 WIPO/Univentio. All rts. reserv.
00502116
METHOD FOR TREATING HYPEROXIA
PROCEDE DE TRAITEMENT DE L'HYPEROXIE
Patent Applicant/Assignee:
CELL THERAPEUTICS INC,
Inventor(s):
SINGER Jack W,
ABRAHAM Edward,
Patent and Priority Information (Country, Number, Date):
Patent: WO 9933468 A1 19990708
Application: WO 98US27660 19981229 (PCT/WO US9827660)
Priority Application: US 971373 19971231
Designated States: AU CA CN CZ HU IL JP KR MX NO NZ PL RU YU AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
Publication Language: English
Fulltext Word Count: 5922
English Abstract
Disclosed are methods for treating conditions resulting from hyperoxia or mechanical ventilation comprising the administration of a compound of formula (I), wherein R1 is a substantially pure resolved R enantiomer omega-1, secondary alcohol-substituted (C5-8) alkyl; and R2 and R3 are **independently hydrogen atom** or a (C1-12) alkyl optionally containing one or two oxygen atoms in place of non-adjacent carbon atoms.

25/3,AB/38 (Item 38 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
(c) 2002 WIPO/Univentio. All rts. reserv.
00457034
NEUROPROTECTIVE COMPOUNDS AND USES THEREOF
COMPOSES NEUROPROTECTEURS ET LEURS APPLICATIONS
Patent Applicant/Assignee:
CORNELL RESEARCH FOUNDATION INC,
UNIVERSITY OF GEORGIA RESEARCH FOUNDATION INC,
Inventor(s):
JOH Tong H,
CHO Sunghee,
CHU Chung K,
DU Jinfa,
Patent and Priority Information (Country, Number, Date):
Patent: WO 9847498 A1 19981029
Application: WO 98US8182 19980423 (PCT/WO US9808182)
Priority Application: US 9744180 19970423
Designated States: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH GM GW HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZW GH GM KE LS MW SD SZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN ML MR NE SN TD TG
Publication Language: English
Fulltext Word Count: 8963
English Abstract

The present invention relates to a compound having formula (I) where X = R1O, F, Br, I, Cl, or a C1 to C5 alkyl group; R1 = a C1 to C10 alkyl group or a C1 to C10 aryl group, n = 1 or 2, R2 = aC1 to C6 alkyl group, an amino acid, a heterocycle, a secondary or tertiary C3 to C4 hydrocarbon, or (a) where R3 = H or CH3, or pharmaceutically acceptable salts thereof. The invention further relates to pharmaceutical compositions which include the compounds, as well as methods of making and using the compounds.

25/3,AB/42 (Item 42 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
(c) 2002 WIPO/Univentio. All rts. reserv.
00408076
BIOCHEMICAL ANALYSIS OF ANTIOXIDANT FUNCTION
ANALYSE BIOCHIMIQUE DE LA FONCTION ANTIOXYDANTE
Patent Applicant/Assignee:
RESEARCH DEVELOPMENT FOUNDATION,
Inventor(s):
CRAWFORD J Fred,
BUCCI Luke,
Patent and Priority Information (Country, Number, Date):
Patent: WO 9748821 A1 19971224
Application: WO 97US10328 19970618 (PCT/WO US9710328)
Priority Application: US 96665941 19960619
Designated States: AL AM AT AU AZ BB BG BR BY CA CH CN CZ DE DK EE ES FI GB GE HU IL IS JP KE KG KP KR KZ LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK TJ TM TR TT UA UG UZ VN GH KE LS MW SD SZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE CH DE DK ES FI FR GB GR IE IT LU MC

NL PT SE BF BJ CF CG CI CM GA GN ML MR NE SN TD TG
Publication Language: English
Fulltext Word Count: 7096
English Abstract

The present invention provides a cell culture medium useful for a biochemical analysis of antioxidant function in human lymphocytes, said medium comprising, a buffered, serum-free solution containing the following ingredients: a carbohydrate selected from the group consisting of glucose and a compound biologically capable of producing glucose in the cells; a biologically usable form of pantothenic acid; choline or a biological usable form of a substance capable of producing choline in the cells; inorganic ions comprising chloride, phosphate, calcium, magnesium, potassium, sodium; and iron in a biologically utilizable form, cumene hydroperoxide, deionized water, and a mitogen in an amount effective to stimulate the lymphocytes being assayed; said buffered, serum-free solution having a pH from about 6.8 to 7.6, said cell culture medium characterized by being effective to determine nutritional deficiencies, inadequacies, and imbalances and to biochemically analyze antioxidant function of the lymphocytes. Also provided is a method of biochemically analyzing cellular antioxidant function in an individual comprising the steps of: inoculating the cell culture medium of the present invention with lymphocytes from said individual; incubating the inoculated cell culture medium; and comparing the response of the lymphocytes with an average response of lymphocytes from a control group of individuals.

25/3,AB/43 (Item 43 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00401101
USE OF FATTY ALCOHOL ETHERS FOR THE INHIBITION OF NEURODEGENERATIVE DISEASES
TRAITEMENT D'INHIBITION D'ETATS PATHOLOGIQUES NEURO-DEGENERATIFS
Patent Applicant/Assignee:
CLARION PHARMACEUTICALS INC,
Inventor(s):
PRUSS Thaddeus P,
Patent and Priority Information (Country, Number, Date):
Patent: WO 9741845 A2 19971113
Application: WO 97US7539 19970505 (PCT/WO US9707539)
Priority Application: US 96643567 19960506
Designated States: AU CA JP NZ AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE
Publication Language: English
Fulltext Word Count: 5107
English Abstract

Compounds for use in preventing or inhibiting degeneration of neural cells comprising one or more compounds of Formula (I) wherein R is a C12 to C22 linear or branched alkyl group, or pharmaceutically acceptable salts thereof are disclosed.

25/3,AB/44 (Item 44 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00398223
CYTOPROTECTIVE COMPOUNDS
COMPOSES CYTOPROTECTEURS
Patent Applicant/Assignee:

VIRGINIA COMMONWEALTH UNIVERSITY,
Inventor(s):
FRANSON Richard C,
OTTENBRITE Raphael M,
Patent and Priority Information (Country, Number, Date):
Patent: WO 9738966 A2 19971023
Application: WO 97US6283 19970415 (PCT/WO US9706283)
Priority Application: US 96632030 19960415
Designated States: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE HU IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK TJ TM TR TT UA UG UZ VN YU GH KE LS MW SD SZ UG AM AZ BY KG KZ MD RU TJ TM AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN ML MR NE SN TD TG
Publication Language: English
Fulltext Word Count: 16965
English Abstract

The present invention provides compositions and methods for protecting cells from injury due to intrinsic membrane lysis, oxidation and/or invasion by destructive agents. Even more particularly, the present invention provides compositions and methods for treating or prophylactically inhibiting phospholipase mediated injury, **injury due to oxidation,** and inflammation. In a very specific sense, this invention provides compositions and methods of making these compositions that are inhibitors of phospholipase.

25/3,AB/47 (Item 47 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00357635
SYNTHETIC CATALYTIC FREE RADICAL SCAVENGERS USEFUL AS ANTIOXIDANTS FOR PREVENTION AND THERAPY OF DISEASE
INTERCEPTEURS CATALYTIQUES SYNTHETIQUES DE RADICAUX LIBRES S'UTILISANT COMME ANTIOXYDANTS DANS LA PREVENTION ET LE TRAITEMENT DE MALADIES
Patent Applicant/Assignee:
EUKARION INC,
MALFROY-CAMINE Bernard,
DOCTROW Susan Robin,
Inventor(s):
MALFROY-CAMINE Bernard,
DOCTROW Susan Robin,
Patent and Priority Information (Country, Number, Date):
Patent: WO 9640149 A1 19961219
Application: WO 96US10267 19960606 (PCT/WO US9610267)
Priority Application: US 95485489 19950607
Designated States: AL AM AT AU AZ BB BG BR BY CA CH CN CZ DE DK EE ES FI GB GE HU IL IS JP KE KG KP KR KZ LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK TJ TM TR TT UA UG US UZ VN KE LS MW SD SZ UG AM AZ BY KG KZ MD RU TJ TM AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN ML MR NE SN TD TG
Publication Language: English
Fulltext Word Count: 34769
English Abstract

The invention provides antioxidant salen-metal complexes, compositions of such antioxidant salen-metal complexes having superoxide activity, catalase activity, and/or peroxidase activity, **compositions of salen-metal complexes in a form suitable for pharmaceutical**

administration to treat or prevent a disease associated with cell or tissue damage produced by free radicals such as superoxide, and cosmetic and free radical quenching formulations of salen metal compounds.

25/3,AB/48 (Item 48 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00357634
SYNTHETIC CATALYTIC FREE RADICAL SCAVENGERS USEFUL AS ANTIOXIDANTS FOR PREVENTION AND THERAPY OF DISEASE
PHAGOCYTES DE RADICAUX LIBRES SYNTHETIQUES CATALYTIQUES UTILES COMME ANTIOXYDANTS POUR PREVENIR ET TRAITER DES MALADIES
Patent Applicant/Assignee:
EUKARION INC,
MALFROY-CAMINE Bernard,
DOCTROW Susan Robin,
Inventor(s):
MALFROY-CAMINE Bernard,
DOCTROW Susan Robin,
Patent and Priority Information (Country, Number, Date):
Patent: WO 9640148 A1 19961219
Application: WO 96US10037 19960606 (PCT/WO US9610037)
Priority Application: US 95485489 19950607
Designated States: AL AM AT AU AZ BB BG BR BY CA CH CN CZ DE DK EE ES FI GB GE HU IL IS JP KE KG KP KR KZ LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK TJ TM TR TT UA UG US UZ VN KE LS MW SD SZ UG AM AZ BY KG KZ MD RU TJ TM AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN ML MR NE SN TD TG
Publication Language: English
Fulltext Word Count: 30456
English Abstract
The invention provides antioxidant salen-metal complexes, compositions of such antioxidant salen-metal complexes having superoxide activity, catalase activity, and/or peroxidase activity, compositions of salen-metal complexes in a form suitable for pharmaceutical administration to treat or prevent a disease associated with cell or tissue damage produced by free radicals such as superoxide, and cosmetic and free radical quenching formulations of salen metal compounds.

25/3,AB/51 (Item 51 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00265131
SYNTHETIC CATALYTIC FREE RADICAL SCAVENGERS USEFUL AS ANTIOXIDANTS FOR PREVENTION AND THERAPY OF DISEASE
PIEGEURS DE RADICAUX LIBRES CATALYTIQUES SYNTHETIQUES UTILES COMME ANTIOXYDANTS DANS LA PREVENTION ET LA THERAPIE DE MALADIES
Patent Applicant/Assignee:
EUKARION INC,
MALFROY-CAMINE Bernard,
BAUDRY Michel,
Inventor(s):
MALFROY-CAMINE Bernard,
BAUDRY Michel,
Patent and Priority Information (Country, Number, Date):
Patent: WO 9413300 A1 19940623

Application: WO 93US11857 19931206 (PCT/WO US9311857)
Priority Application: US 92987474 19921207
Designated States: AT AU BB BG BR BY CA CH CZ DE DK ES FI GB HU JP KP KR KZ LK LU LV MG MN MW NL NO NZ PL PT RO RU SD SE SK UA US VN AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN ML MR NE SN TD TG
Publication Language: English
Fulltext Word Count: 19094
English Abstract

The invention provides antioxidant salen-metal complexes in a form suitable for pharmaceutical administration to treat or prevent a disease associated with cell or tissue damage produced by free radicals such as superoxide.

25/3,AB/56 (Item 56 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00188208
METHOD AND COMPOSITIONS FOR INHIBITION OF DISORDERS ASSOCIATED WITH OXIDATIVE DAMAGE
PROCEDE ET COMPOSITIONS INHIBANT LES TROUBLES ASSOCIES AUX LESIONS OXYDATIVES DES TISSUS
Patent Applicant/Assignee:
OKLAHOMA MEDICAL RESEARCH FOUNDATION,
UNIVERSITY OF KENTUCKY RESEARCH FOUNDATION,
Inventor(s):
CARNEY John M,
FLOYD Robert A,
Patent and Priority Information (Country, Number, Date):
Patent: WO 9105552 A1 19910502
Application: WO 90US5952 19901017 (PCT/WO US9005952)
Priority Application: US 89651 19891017; US 90177 19900927
Designated States: AT AU BE CA CH DE DK ES FR GB GR IT JP KR LU NL SE
Publication Language: English
Fulltext Word Count: 12871
English Abstract

Compositions containing as the active ingredient a spin-trapping reagent, preferably alpha-phenyl butyl nitrone (PNB), or spin-trapping derivatives thereof, in a suitable pharmaceutical carrier for administration to a patient, are disclosed for treating or preventing symptoms associated with stroke or other ischemic damage, aging or other conditions associated with oxidative tissue damage. For the prevention or treatment of damage as a result of ischemia, the compositions are administered prior to or during ischemia in an effective dosage to prevent or reverse predisposition of the cells to damage resulting from depletion of ATP and damage from free radical generation following reperfusion. Examples of diseases which can be treated include stroke, meningitis, progessive neuronal loss due to Parkinson's disease, senile dementia, and drug abuse, disorders arising from exposure to high pressure oxygen or enriched oxygen environments, and bleeding into nervous tissue as a result of trauma. For treatment of aging, the compositions are preferably administered one to two times daily by oral administration for a period of two weeks. A significant reduction in oxidized proteins and memory recovery is observed as early as seven days after initiation of treatment.

25/3,AB/58 (Item 58 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

00148034
PROTECTION AGAINST AMINOGLYCOSIDE-INDUCED NEPHROTOXICITY
PROTECTION CONTRE LA NEPHROTOXICITE INDUITE PAR UN AMINOGLYCOSIDE
Patent Applicant/Assignee:
THE ADMINISTRATORS OF THE TULANE EDUCATIONAL FUND,
Inventor(s):
WALKER Patrick D,
SHAH Sudhir V,
Patent and Priority Information (Country, Number, Date):
Patent: WO 8804925 A1 19880714
Application: WO 87US3468 19871221 (PCT/WO US8703468)
Priority Application: US 86227 19861229
Designated States: AT AU BE CH DE DK FI FR GB IT JP KR LU NL SE
Publication Language: English
Fulltext Word Count: 8679
English Abstract
The in vivo use of compounds which prevent the generation of, effectively scavenge, or detoxify a reactive oxygen metabolite that mediates a toxic effect of an aminoglycoside. The compounds of the invention can be used to prevent or reduce aminoglycoside-induced renal damage, and **include but are not limited to free radical scavengers, iron chelators, oxidizable compounds, enzymes which metabolize reactive oxygen metabolites or their precursors, and biosynthetic precursors thereof.**

File 348:EUROPEAN PATENTS 1978-2002/Mar W01
File 349:PCT FULLTEXT 1983-2002/UB=20020307,UT=20020228

Set	Items	Description
S1	1177	REACTIVE()OXYGEN()SPECIES
S2	2473	ROS
S3	21785	FREE()RADICAL? ?
S4	28398	RESPIRA?
S5	50437	INTRAVENOUS??
S6	141936	OXYGEN
S7	191247	HYDROGEN
S8	91858	METHANE
S9	61355	ETHANE
S10	64125	PROPANE
S11	11233	ACETYLENE
S12	4090	FUEL()GAS??
S13	39317	BUTANE
S14	131	OIL()VAPORS
S15	161996	NITROGEN
S16	40209	CARBON()DIOXIDE
S17	24439	S1:S3
S18	67592	S4:S5
S19	295114	S6:S12
S20	192923	S13:S16
S21	63	S19(5N)S18(S)S17
S22	0	S20(5N)S18(S)S17
S23	63	S21
S24	63	IDPAT (sorted in duplicate/non-duplicate order)
S25	**58**	**IDPAT (primary/non-duplicate records only)**

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1/9/1
DIALOG(R)File 155:MEDLINE(R)
12912544 21629053 PMID: 11755156
Effects of methoxylation of apocynin and analogs on the inhibition of reactive oxygen species production by stimulated human neutrophils.
Van den Worm E; Beukelman C J; Van den Berg A J; Kroes B H; Labadie R P; Van Dijk H
Department of Medicinal Chemistry, Utrecht Institute for Pharmaceutical Sciences, Faculty of Pharmacy, Utrecht University, PO Box 80082, 3508 TB, Utrecht, The Netherlands. E.vandenworm@pharm.uu.nl
European journal of pharmacology (Netherlands) Dec 21 2001, 433 (2-3) p225-30, ISSN 0014-2999 Journal Code: 1254354
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
Subfile: INDEX MEDICUS
Owing to their multiple side effects, the use of steroidal drugs is becoming more and more controversial, resulting in an increasing need for new and safer anti-inflammatory agents. In the inflammatory process, reactive oxygen species produced by phagocytic cells are considered to play an important role. We showed that apocynin (4'-hydroxy-3'-methoxy-acetophen one or acetovanillone), a non-toxic compound isolated from the medicinal plant Picrorhiza kurroa, selectively inhibits reactive oxygen species production by activated human neutrophils. Apocynin proved to be effective in the experimental treatment of several inflammatory diseases such as arthritis, colitis and atherosclerosis. These features suggest that apocynin could be a prototype of a novel series of non-steroidal anti-inflammatory drugs (NSAIDs). So far, apocynin is mainly used in vitro to block NADPH oxidase-dependent reactive oxygen species generation by neutrophils. In order to get a better insight in what chemical features play a role in the anti-inflammatory effects of apocynin, a structure-activity relationship study with apocynin analogs was performed. We show here that especially substances with an additional methoxy group at position C-5 display enhanced anti-inflammatory activity in vitro. Our approach may lead to the development of more effective anti-inflammatory agents which are safe and which lack the side effects of steroids.
Tags: Human; Support, Non-U.S. Gov't
Descriptors: Acetophenones--pharmacology--PD; *Anti-Inflammatory Agents --pharmacology--PD; *Neutrophils--drug effects--DE; * Reactive Oxygen Species --antagonists and inhibitors--AI; Acridines--pharmacology--PD; Chemiluminescence; Luminol--pharmacology--PD; Neutrophils--metabolism--ME; Peroxidase--metabolism--ME; Solubility; Structure-Activity Relationship; Superoxides--metabolism--ME; Tetradecanoylphorbol Acetate--pharmacology--PD
CAS Registry No.: 0 (Acetophenones); 0 (Acridines); 0 (Anti-Inflammatory Agents); 0 (Reactive Oxygen Species); 11062-77-4 (Superoxides); 16561-29-8 (Tetradecanoylphorbol Acetate); 2315-97-1 (10,10'-dimethyl-9,9'-biacridinium); 498-02-2 (acetovanillone); 521-31-3 (Luminol)
Enzyme No.: EC 1.11.1.7 (Peroxidase)
Record Date Created: 20011228

File 155:MEDLINE(R) 1966-2002/Mar W2
Set Items Description
S1 6 "REACTIVE OXYGEN SPECIES --ANTAGONISTS AND INHI"

11/3,K/1 (Item 1 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

13196663 BIOSIS NO.: 200100403812
Lipid peroxidation and plasma antioxidant micronutrients in Crohn disease.
AUTHOR: Wendland Barbara E; Aghdassi Elaheh; Tam Carolyn; Carrrier Julie; Steinhart A Hillary; Wolman Stephen L; Baron David; Allard Johane P(a)
AUTHOR ADDRESS: (a)Division of Gastroenterology, Department of Medicine, Toronto General Hospital, 200 Elizabeth Street, UHN Room 9 EN-217A, Toronto, ON, M5G-2C4: johane.allard@utoronto.ca**Canada
JOURNAL: American Journal of Clinical Nutrition 74 (2):p259-264 August, 2001
MEDIUM: print
ISSN: 0002-9165
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English
SUMMARY LANGUAGE: English
ABSTRACT: Background: In Crohn disease (CD), the increased production of reactive oxygen species from activated neutrophils may reduce plasma concentrations of antioxidant vitamins and result in increased oxidative stress. Objective: We compared lipid peroxidation, a measure of reactive - oxygen - species production, and plasma antioxidant vitamin concentrations between CD patients and healthy control subjects. Design: Thirty...
...subjects), antibiotics (22%), oral corticosteroids (30%), and immunosuppressants (19%). Results: Lipid peroxidation as measured by **breath** pentane output (CD patients, 7.47+-0.98 pmolcntdotkg-1cntdotmin-1; control subjects, 4.97+-0.48 pmolcntdotkg-1cntdotmin-1; Pltoreq0.025), **breath ethane output** (CD patients, 11.24+-1.17 pmolcntdotkg-1cntdotmin-1; control subjects, 5.46+-0...
DESCRIPTORS:
CHEMICALS & BIOCHEMICALS: ...**ethane**--... **breath** output... reactive oxygen species

11/3,K/2 (Item 2 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

12891453 BIOSIS NO.: 200100098602
A controlled clinical trial of vitamin E supplementation in patients with congestive heart failure.
AUTHOR: Keith Mary E; Jeejeebhoy Khursheed N(a); Langer Anatoly; Kurian Regina; Barr Aiala; O'Kelly Brian; Sole Michael J
AUTHOR ADDRESS: (a)St Michael's Hospital, 3 Queen-035, Toronto, ON, M5B 1W8: khush.jeejeebhoy@utoronto.ca, michael.sole@uhn.on.ca**Canada
JOURNAL: American Journal of Clinical Nutrition 73 (2):p219-224 February, 2001
MEDIUM: print
ISSN: 0002-9165
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English
SUMMARY LANGUAGE: English
...ABSTRACT: in these patients. Increased oxidative stress is the result of either an increased production of free radicals or a depletion of endogenous antioxidants, such as vitamin E. Objective: We aimed to

determine...
...failure would modify levels of oxidative stress, thereby preventing or delaying the deterioration associated with free radical injury. Design: Fifty-six outpatients with advanced heart failure (New York Heart Association functional class...
...for 12 wk. At a baseline visit and at 2 follow-up visits, blood and **breath** samples were collected for the measurement of indexes of heart function and disease state, including malondialdehyde, isoprostanes, and **breath pentane and ethane** . Quality of life was also assessed at baseline and after 12 wk of treatment. Results...
DESCRIPTORS:
CHEMICALS & BIOCHEMICALS: ... free radicals --

11/3,K/3 (Item 3 from file: 155)
DIALOG(R)File 155:MEDLINE(R)
12637571 21585117 PMID: 11728983
Oxidative stress and inflammation in hemodialysis patients.
Spittle M A; Hoenich N A; Handelman G J; Adhikarla R; Homel P; Levin N W
Division of Nephrology and Hypertension, and the Department of Biostatistics, Beth Israel Medical Center, Boston, MA, USA.
American journal of kidney diseases : the official journal of the National Kidney Foundation (United States) Dec 2001, 38 (6) p1408-13, ISSN 1523-6838 Journal Code: 8110075
Languages: ENGLISH
Document type: Clinical Trial; Controlled Clinical Trial; Journal Article
Record type: Completed
... the development of endothelial dysfunction and atherogenesis. **Markers of oxidative stress include F2-isoprostanes and ethane** . Measurements in dialysis patients before dialysis showed higher levels of esterified plasma F2-isoprostanes (1...
... also correlated with high plasma C-reactive protein (CRP) levels (r =.48, P = 0.015). **Breath ethane levels** for dialysis patients (N = 19) were 6.32 +/- 3.16 pmol/kg-min, in...
...; Failure, Chronic--mortality--MO; Kidney Failure, Chronic--therapy --TH; Lipid Peroxidation; Longitudinal Studies; ROC Curve; Reactive Oxygen Species --metabolism--ME; Risk Assessment; Survival Analysis
Chemical Name: Amyloid Protein AA; F2-Isoprostanes; Reactive Oxygen Species ; C-Reactive Protein

11/3,K/5 (Item 5 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci
(c) 2002 Inst for Sci Info. All rts. reserv.
09572533 Genuine Article#: 423CM No. References: 31
Title: Oxygen toxicity: simultaneous measure of pentane and malondialdehyde in humans exposed to hyperoxia
Author(s): Loiseaux-Meunier MN (REPRINT) ; Bedu M; Gentou C; Pepin D; Coudert J; Caillaud D
Corporate Source: Hop Gabriel Montpied,Lab Biochim Med & Immunochim,30 Pl Henri Dunant/F-63000 Clermont Ferrand//France/ (REPRINT); Hop Gabriel Montpied,Lab Biochim Med & Immunochim,F-63000 Clermont Ferrand//France/ ; Fac Med & Pharm,Lab Hydrol & Hyg, Inst Louise Blanquet,F-63000 Clermont Ferrand//France/; Hop Gabriel Montpied,Serv Pneumol,F-63000 Clermont Ferrand//France/
Journal: BIOMEDICINE & PHARMACOTHERAPY, 2001, V55, N3 (APR), P163-169
ISSN: 0753-3322 Publication date: 20010400
Publisher: EDITIONS SCIENTIFIQUES MEDICALES ELSEVIER, 23 RUE LINOIS, 75724

PARIS CEDEX 15, FRANCE
Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)
Abstract: In order to estimate cell damage caused by free radicals during oxygenotherapy, **we investigated the time course of two markers of lipoperoxidation: pentane in breath**...
...Identifiers--LIPID-PEROXIDATION; N-PENTANE; **ETHANE**; **BREATH**; RATS; LUNG; ALKANES; INJURY

11/3,K/7 (Item 7 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
(c) 2002 BIOSIS. All rts. reserv.
12662963 BIOSIS NO.: 200000416465
Evaluation of oxidant stress in dialysis patients.
AUTHOR: Handelman Garry J(a)
AUTHOR ADDRESS: (a)Health and Clinical Science, University of Massachusetts, 3 Solomont Way, Lowell, MA, 01854**USA
JOURNAL: Blood Purification 18 (4):p343-349 2000
MEDIUM: print
ISSN: 0253-5068
DOCUMENT TYPE: Article
RECORD TYPE: Citation
LANGUAGE: English
SUMMARY LANGUAGE: English
DESCRIPTORS:
CHEMICALS & BIOCHEMICALS: ... **breath** **ethane** ; ...
... reactive oxygen species {ROS

11/3,K/8 (Item 8 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci
(c) 2002 Inst for Sci Info. All rts. reserv.
08658143 Genuine Article#: 312ZF No. References: 32
Title: Effect of age on the profile of alkanes in normal human **breath**
Author(s): Phillips M (REPRINT) ; Greenberg J; Cataneo RN
Corporate Source: MENSSANA RES INC,1 HORIZON RD, SUITE 1415/FT LEE//NJ/07024 (REPRINT); ST VINCENTS MED CTR,DEPT MED/STATEN ISL//NY/10310; NEW YORK MED COLL,DEPT MED/VALHALLA//NY/10595
Journal: FREE RADICAL RESEARCH, 2000, V33, N1, P57-63
ISSN: 1071-5762 Publication date: 20000000
Publisher: HARWOOD ACAD PUBL GMBH, C/O STBS LTD, PO BOX 90, READING RG1 8JL, BERKS, ENGLAND
Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)
Abstract: **Ethane and pentane in breath are markers of oxidative stress**, produced by ROS-mediated lipid peroxidation of n-3 and...
...polyunsaturated fatty acids (PUFAs), but little is known about other n-alkanes in normal human **breath** . We investigated the spectrum of alkanes in normal human alveolar **breath** , and their variation with age. Fifty normal humans were studied (age range 23-75, median 35). Volatile organic compounds (VOCs) in alveolar **breath** were captured on sorbent traps and assayed by gas chromatography and mass spectroscopy. Alveolar gradients (concentration in **breath** minus concentration in ambient room air) of alkanes were determined. C4-C20 alkanes were observed in **breath** and room air. Their mean alveolar gradients were negative from C4 to C12 and positive...
...subjects ($p < 0.05$). There were no significant differences between males and females. Normal human **breath** contained a spectrum of alkanes which may include new markers of oxidative stress. The mean...

11/3,K/9 (Item 9 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci
(c) 2002 Inst for Sci Info. All rts. reserv.
08643764 Genuine Article#: 311PN No. References: 68
Title: **Breath alkanes** as a marker of oxidative stress in different clinical conditions
Author(s): Aghdassi E; Allard JP (REPRINT)
Corporate Source: TORONTO GEN HOSP,UNIV HLTH NETWORK, DEPT MED, GEN DIV, 200 ELIZABETH ST, EATON WING, 9TH FLO/TORONTO/ON M5G 2C4/CANADA/ (REPRINT); TORONTO GEN HOSP,UNIV HLTH NETWORK, DEPT MED, GEN DIV/TORONTO/ON M5G 2C4/CANADA/
Journal: FREE RADICAL BIOLOGY AND MEDICINE, 2000, V28, N6 (MAR 15), P 880-886
ISSN: 0891-5849 Publication date: 20000315
Publisher: PERGAMON-ELSEVIER SCIENCE LTD, THE BOULEVARD, LANGFORD LANE, KIDLINGTON, OXFORD OX5 1GB, ENGLAND
Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)

11/3,K/10 (Item 10 from file: 399)
DIALOG(R)File 399:CA SEARCH(R)
(c) 2002 AMERICAN CHEMICAL SOCIETY. All rts. reserv.
133320108 CA: 133(23)320108q JOURNAL
Glutathione depletion and the production of reactive oxygen species in isolated hepatocyte suspensions
AUTHOR(S): Tirmenstein, M. A.; Nicholls-Grzemski, F. A.; Zhang, J.-G.; Fariss, M. W.
LOCATION: College of Pharmacy, Departments of Pharmaceutical Sciences and Pharmacy Practice, Washington State University, Pullman, WA, 99164-6510,USA
JOURNAL: Chem.-Biol. Interact. DATE: 2000 VOLUME: 127 NUMBER: 3
PAGES: 201-217 CODEN: CBINA8 ISSN: 0009-2797
PUBLISHER ITEM IDENTIFIER: 0009-2797(00)00180-0 LANGUAGE: English
PUBLISHER: Elsevier Science Ireland Ltd.

11/3,K/14 (Item 14 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
(c) 2002 BIOSIS. All rts. reserv.
11316103 BIOSIS NO.: 199800097435
Oxidative stress and plasma antioxidant micronutrients in humans with HIV infection.
AUTHOR: Allard Johane P(a); Aghdassi Elaheh; Chau Jenny; Salit Irving; Walmsley Sharon
AUTHOR ADDRESS: (a)Toronto Hosp., Gen. Div., 200 Elizabeth St., 9 EN-217A, Toronto, ON M5G 2C4**Canada
JOURNAL: American Journal of Clinical Nutrition 67 (1):p143-147 Jan., 1998
ISSN: 0002-9165
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English
ABSTRACT: Increased lipid peroxidation induced by reactive oxygen species may play a role in the stimulation of HIV replication. In this study we compared...
...opportunistic infection (25 asymptomatic and 24 with AIDS) and 15 age-matched seronegative control subjects. **Breath -alkane output**, plasma lipid peroxides, antioxidant vitamins, and trace elements were measured. Vitamin C (40...
...50.7 +- 8.2 compared with 4.5 +- 0.8 mumol/L, P < 0.005), **breath**

pentane (9.05 +- 1.23 compared with 6.06 +- 0.56 pmol cntdot kg-1 cntdot min-1, P < 0.05), and **ethane** output (28.1 +- 3.41 compared with 11.42 +- 0.55 pmol cntdot kg-1...
MISCELLANEOUS TERMS: **breath - ethane output...**

11/3,K/15 (Item 15 from file: 73)
DIALOG(R)File 73:EMBASE
(c) 2002 Elsevier Science B.V. All rts. reserv.
07534321 EMBASE No: 1998409940
Effect of dietary patterns on measures of lipid peroxidation: Results from a randomized clinical trial
Miller III E.R.; Appel L.J.; Risby T.H.
Dr. E.R. Miller III, Welch Ctr. Prev., Epidem./Clin. Res., Johns Hopkins Medical Institutions, 2024 E Monument St, Baltimore, MD 21205-2223 United States
AUTHOR EMAIL: ermiller@welchlink.welch.jhu.edu
Circulation (CIRCULATION) (United States) 01 DEC 1998, 98/22 (2390-2395)
CODEN: CIRCA ISSN: 0009-7322
DOCUMENT TYPE: Journal; Article
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH
NUMBER OF REFERENCES: 38
Background- Free radical -mediated oxidative damage to lipids is thought to be an important process in the pathogenesis...
...fat. Serum oxygen radical-absorbing capacity, malondialdehyde (an in vitro measure of lipid peroxidation), and **breath ethane** (an in vivo measure of lipid peroxidation) were measured at the end of run-in...
...in the combination diet (P=0.10 compared with control). Median (interquartile range) change in **ethane** was 0.84 (0.10, 1.59) in the control diet, 0.02 (-0.61...

11/3,K/18 (Item 18 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
(c) 2002 BIOSIS. All rts. reserv.
11169190 BIOSIS NO.: 199799790335
Possible antioxidant effect of vitamin A supplementation in premature infants.
AUTHOR: Schwartz Kathleen B(a); Cox Jeanne M; Sharma Savitri; Clement Liliana; Humphrey Jean; Gleason Christine; Abbey Helen; Sehnert Shelley S ; Risby Terence H
AUTHOR ADDRESS: (a)Brady 320, 600 North Wolfe Street, Baltimore, MD 21287-2631**USA
JOURNAL: Journal of Pediatric Gastroenterology and Nutrition 25 (4):p 408-414 1997
ISSN: 0277-2116
RECORD TYPE: Abstract
LANGUAGE: English
ABSTRACT: Background: Increased lipid peroxidation caused by oxygen free radicals is thought to be one of the common pathogenetic mechanisms for the so-called oxygen...
...Antioxidant effects of supplementation were assessed by a decrease in lipid peroxidation, **quantified by the ethane content of expired air.** Results: Three weeks after study enrollment, total daily vitamin A intake...
...dl versus 19 +- 2 mu-g/dl, respectively). In the infants receiving supplemental vitamin A, **breath ethane** values declined from baseline values. There was an inverse correlation between the number of weeks of supplementation and **breath ethane values**, whereas there was no

significant correlation between the duration of the study and **breath ethane** values in the infants not given supplements. Conclusions: Our data suggest that supplementation with vitamin...

11/3,K/19 (Item 19 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
(c) 2002 BIOSIS. All rts. reserv.
11082058 BIOSIS NO.: 199799703203
Association between cigarette smoking and lipid peroxidation in a controlled feeding study.
AUTHOR: Miller Edgar R Iii(a); Appel Lawrence J; Jiang Long; Risby Terence H
AUTHOR ADDRESS: (a)Welch Cent. Prevention, Epidemiol. Clin. Res., Johns Hopkins Med. Inst., 2024 E. Monument St., S**USA
JOURNAL: Circulation 96 (4):p1097-1101 1997
ISSN: 0009-7322
RECORD TYPE: Abstract
LANGUAGE: English
ABSTRACT: Background. Cigarette smoke may promote atherogenesis by producing oxygen-derived free radicals that damage lipids. However, evidence in support of this hypothesis is inconsistent because most studies...
...peroxidation. Methods and Results. The relationships between cigarette smoking and **two measures of lipid peroxidation, breath ethane** (an in vivo assay) and thiobarbituric acid-reactive substances (TBARS, an in vitro assay), were...
...common diet (36% total fat, 14% saturated fats, 6% polyunsaturated fats, and 12% monounsaturated fats), **breath** and fasting serum samples were collected for measurement of **ethane** and TBARS, respectively. Baseline characteristics of smokers and nonsmokers were similar, including several indices related...
...albumin, cholesterol, body mass index, and oxygen radical-absorbing capacity). Cigarette smokers had significantly higher **breath ethane** (8.88 versus 1.71 pmol/L; P lt .0001) and TBARS (24.0 versus 20.7 mu-mol/mL; P=.008) than nonsmokers. The interval between **breath** collection and the time the last cigarette was smoked was significantly and inversely correlated with **breath ethane** . Neither measure of lipid peroxidation was associated with measures of serum cholesterol or albumin, body...
...results support the hypothesis that the atherogenic effects of smoking are mediated in part by free radical damage to lipids.
MISCELLANEOUS TERMS: ... FREE RADICAL DAMAGE

11/3,K/20 (Item 20 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
(c) 2002 BIOSIS. All rts. reserv.
10885899 BIOSIS NO.: 199799507044
Prooxidant effects of maternal smoking and formula in newborn infants.
AUTHOR: Schwarz Kathleen B(a); Cox Jeanne M; Sharma Savitri; Clement Liliana; Witter Frank; Abbey Helen; Sehnert Shelley S; Risby Terence H
AUTHOR ADDRESS: (a)Johns Hopkins Hosp., Brady 320, 600 North Wolfe St., Baltimore, MD 21287-2631**USA
JOURNAL: Journal of Pediatric Gastroenterology and Nutrition 24 (1):p68-74 1997
ISSN: 0277-2116
RECORD TYPE: Abstract
LANGUAGE: English
ABSTRACT: Background: **The purpose of this study was to use the breath**

ethane test to determine if either maternal cigarette smoking, formula, and/or deficiency of the antioxidant...
...vitamins A and E have been shown to promote oxidant stress in experimental animals. Methods: **Breath ethane** , a volatile alkane produced by peroxide of n-3 fatty acids, was utilized as an...
...to six feedings of breast milk (colostrum) or casein-based infant formula. Relationships between infant **breath ethane** , maternal smoking, mode of infant nutrition, and serum concentrations of the antioxidant vitamins A and E of infants were examined. Results: The **breath ethane** of the entire group of infants whose mothers smoked (n = 19) was increased compared to...
...to study effects of nutrition alone, formula appeared to be prooxidant compared to breast milk. **Breath ethane** of formula-fed infants (n = 16) was 62 +- 13 versus 13 +- 4 pmol/kg/min...
...lt 0.04. For the group as a whole, there was no correlation between infant **breath ethane** and serum concentrations of vitamins A and E. Conclusions: Exposure to maternal smoking in utero...
...REGISTRY NUMBERS: OXYGEN FREE RADICALS ;
DESCRIPTORS:
CHEMICALS & BIOCHEMICALS: ...OXYGEN FREE RADICALS ;
MISCELLANEOUS TERMS: ... **BREATH ETHANE** ; ...OXYGEN FREE RADICALS ;

11/3,K/21 (Item 21 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
(c) 2002 BIOSIS. All rts. reserv.
10829007 BIOSIS NO.: 199799450152
The oxidative stress: Interest of its monitoring in clinical chemistry and problems of the choice of an appropriate parameter.
AUTHOR: Favier A
AUTHOR ADDRESS: Lab. Biochim. Pathol. Oxydatives, Fac. Pharmacie, CHU Grenoble, 38700 La Tronche**France
JOURNAL: Annales de Biologie Clinique 55 (1):p9-16 1997
ISSN: 0003-3898
RECORD TYPE: Abstract
LANGUAGE: French; Non-English
SUMMARY LANGUAGE: French; English
ABSTRACT: Free radical stress results from a disequilibrium in the prooxidant/antioxidant balance. Such a disequilibrium originates in...
...processes or from environmental exposure. Our body can adapt itself to a moderate range of free radical production but genetic variations can alter such adaptation. Oxidative stress is often partly or totally...
...great number of other diseases as diabetes, infectious processes such as AIDS creates a secondary free radical overproduction that worsens the evolution of the diseases. Monitoring free radical status becomes an interesting challenge for clinical chemists. It can be done by measuring the production of free radicals by patients, as well as their antioxidant cpaacity, or more often the damages resulting of the stress. Direct determination of free radicals can be obtained by physical methods such as electron spin resonance (ESR) or chemiluminescence. Chemical...
...number of lipid derivatives can be measured: conjugated dienes, hydroperoxydes, aldehydes (malonaldehyde or hydroxynonenal), hydrocarbides (**ethane or pentane in breath**). The most controversial but the most used indicator is the determination of malondialdehyde. Other oxidized...
MISCELLANEOUS TERMS: ... FREE RADICAL PRODUCTION

11/3,K/22 (Item 22 from file: 155)
DIALOG(R)File 155:MEDLINE(R)
09301279 97254008 PMID: 9099246
[Oxidative stress: value of its demonstration in medical biology and problems posed by the choice of a marker]
Le stress oxydant: interet de sa mise en evidence en biologie medicale et problemes poses par le choix d'un marqueur.
Favier A
Laboratoire de biochimie des pathologies oxydatives (GREPO), Faculte de pharmacie et Laboratoire de biochimie C, CHU de Grenoble, La Tronche.
Annales de biologie clinique (FRANCE) Jan-Feb 1997, 55 (1) p9-16, ISSN 0003-3898 Journal Code: 4ZS
Languages: FRENCH
Document type: Journal Article; Review; Review, Tutorial
Record type: Completed
Free radical stress results from a desequilibrium in the prooxidant/antioxidant balance. Such a desequilibrium originates in...
...processes or from environmental exposure. Our body can adapt itself to a moderate range of free radical production but genetic variations can alter such adaptation. Oxidative stress is often partly or totally...
...great number of other diseases as diabetes, infectious processes such as AIDS creates a secondary free radical overproduction that worsens the evolution of the diseases. Monitoring free radical status becomes an interesting challenge for clinical chemists. It can be done by measuring the production of free radicals by patients, as well as their antioxidant capacity, or more often the damages resulting of the stress. Direct determination of free radicals can be obtained by physical methods such as electron spin resonance (ESR) or chemilumisnescence. Chemical...
... number of lipid derivatives can be measured: conjugated dienes, hydroperoxydes, aldehydes (malonaldehyde or hydroxynonenal), hydrocarbides **(ethane or pentane in breath)**. The most controversial but the most used indicator is the determination of malonaldehyde. Other oxidized...
; Antioxidants--metabolism--ME; Free Radicals --analysis--AN; Free Radicals --metabolism--ME
Chemical Name: Antioxidants; Biological Markers; Free Radicals

11/3,K/25 (Item 25 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci
(c) 2002 Inst for Sci Info. All rts. reserv.
05320225 Genuine Article#: VP998 No. References: 174
Title: LIPID-PEROXIDATION IN MITOCHONDRIAL INNER MEMBRANES .1. AN INTEGRATIVE KINETIC-MODEL
Author(s): ANTUNES F; SALVADOR A; MARINHO HS; ALVES R; PINTO RE
Corporate Source: INST INVEST CIENT BENTO ROCHA CABRAL,GRP BIOQUIM & BIOL TEOR,CC BENTO ROCHA CABRAL 14/P-1250 LISBON//PORTUGAL/; UNIV LISBON,FAC CIENCIAS,DEPT QUIM & BIOQUIM/LISBON//PORTUGAL/; UNIV LISBON,FAC CIENCIAS,CTR ESTUDOS BIOQUIM & FISIOL/LISBON//PORTUGAL/
Journal: FREE RADICAL BIOLOGY AND MEDICINE, 1996, V21, N7, P917-943
ISSN: 0891-5849
Language: ENGLISH Document Type: REVIEW (Abstract Available)
...Research Fronts: VITRO GAS-PRODUCTION TECHNIQUE; ENZYMATIC BROWNING REACTIONS)
94-5275 002 (ALDEHYDE PRODUCTS OF LIPID-PEROXIDATION; **BREATH ETHANE** GENERATION DURING CLINICAL TOTAL-BODY IRRADIATION; CCL4 OXIDATION)

94-0943 001 (MITOCHONDRIAL MYOPATHY; POINT MUTATION...
...IN CONGESTIVE-HEART-FAILURE; CREATINE-KINASE SYSTEM; ISCHEMIC MUSCULAR METABOLISM; MAMMALIAN BRAIN)
94-2559 001 (FREE - RADICAL INDUCED OXIDATION; WATER RADIOLYSIS IN CONCENTRATED NITRIC-ACID SOLUTIONS; PRIMARY YIELDS; REDUCTION OF 3,5...

11/3,K/26 (Item 26 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci
(c) 2002 Inst for Sci Info. All rts. reserv.
04928155 Genuine Article#: UT321 No. References: 67
Title: THE REEVALUATION OF THE FERRIC THIOCYANATE ASSAY FOR LIPID HYDROPEROXIDES WITH SPECIAL CONSIDERATIONS OF THE MECHANISTIC ASPECTS OF THE RESPONSE
Author(s): MIHALJEVIC B; KATUSINRAZEM B; RAZEM D
Corporate Source: RUDJER BOSKOVIC INST,POB 1016/ZAGREB 41001//CROATIA/; RUDJER BOSKOVIC INST/ZAGREB 10000//CROATIA/
Journal: FREE RADICAL BIOLOGY AND MEDICINE, 1996, V21, N1, P53-63
ISSN: 0891-5849
Language: ENGLISH Document Type: ARTICLE (Abstract Available)
Research Fronts: 94-5275 001 (ALDEHYDE PRODUCTS OF LIPID-PEROXIDATION; **BREATH ETHANE GENERATION DURING CLINICAL TOTAL-BODY IRRADIATION**; CCL4 OXIDATION)
94-6222 001 (MYOCARDIAL MEMBRANE LIPID-PEROXIDATION...

11/3,K/27 (Item 27 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci
(c) 2002 Inst for Sci Info. All rts. reserv.
04608437 Genuine Article#: TW793 No. References: 34
Title: PREVIOUSLY UNKNOWN ALDEHYDIC LIPID-PEROXIDATION COMPOUNDS OF ARACHIDONIC-ACID
Author(s): MLAKAR A; SPITELLER G
Corporate Source: UNIV BAYREUTH,LEHRSTUHL ORGAN CHEM 1,NW 1,UNIV STR 30/D-95440 BAYREUTH//GERMANY/; UNIV BAYREUTH,LEHRSTUHL ORGAN CHEM 1/D-95440 BAYREUTH//GERMANY/
Journal: CHEMISTRY AND PHYSICS OF LIPIDS, 1996, V79, N1 (JAN 25), P47-53
ISSN: 0009-3084
Language: ENGLISH Document Type: ARTICLE (Abstract Available)
Research Fronts: 94-5275 002 (ALDEHYDE PRODUCTS OF LIPID-PEROXIDATION; **BREATH ETHANE GENERATION DURING CLINICAL TOTAL-BODY IRRADIATION**; CCL4 OXIDATION)
94-1469 001 (JASMONIC ACID; EXPRESSION OF...
...PRODUCT; OXIDATIVE STRESS; POSTISCHEMIC REPERFUSION; THIOBARBITURIC ACID TEST; FORMATION OF 4-HYDROXYALKENALS)
94-5765 001 (FREE RADICAL -MEDIATED LIPID-PEROXIDATION; OXIDATION OF FURAN FATTY-ACIDS; ANTIOXIDANT ACTIVITY; PHOTODYNAMIC THERAPY; SOYBEAN LIPOXYGENASE-1)

11/3,K/28 (Item 28 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci
(c) 2002 Inst for Sci Info. All rts. reserv.
04602972 Genuine Article#: TV950 No. References: 33
Title: EFFECT OF CIGARETTE-SMOKING ON PENTANE EXCRETION IN ALVEOLAR **BREATH**
Author(s): EULER DE; DAVE SJ; GUO HS
Corporate Source: LOYOLA UNIV,MED CTR,ROOM 0742,2160 S 1ST AVE/MAYWOOD//IL/60153
Journal: CLINICAL CHEMISTRY, 1996, V42, N2 (FEB), P303-308
ISSN: 0009-9147

Language: ENGLISH Document Type: ARTICLE (Abstract Available)
...Research Fronts: CANCER RISK; MALE SMOKERS; CASE-CONTROL METHODOLOGY)
94-5275 001 (ALDEHYDE PRODUCTS OF LIPID-PEROXIDATION; **BREATH ETHANE** GENERATION DURING CLINICAL TOTAL-BODY IRRADIATION; CCL4 OXIDATION)

11/3,K/29 (Item 29 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci
(c) 2002 Inst for Sci Info. All rts. reserv.
04540580 Genuine Article#: TQ981 No. References: 37
Title: L-ARGININE INFUSION AFTER ISCHEMIA-REPERFUSION OF RAT-KIDNEY ENHANCES LIPID-PEROXIDATION
Author(s): CRISTOL JP; THIEMERMANN C; GUERIN MC; TORREILLES J; DEPAULET AC
Corporate Source: INSERM U58,60 RUE NAVACELLES/F-34090 MONTPELLIER//FRANCE/ ; INSERM U58/F-34090 MONTPELLIER//FRANCE/; ST BARTHOLOMEWS HOSP MED COLL,WILLIAM HARVEY RES INST/LONDON//ENGLAND/
Journal: JOURNAL OF LIPID MEDIATORS AND CELL SIGNALLING, 1996, V13, N1 (JAN), P9-17
ISSN: 0929-7855
Language: ENGLISH Document Type: ARTICLE (Abstract Available)
...Identifiers--NITRIC-OXIDE; FREE - RADICALS ; PEROXYNITRITE FORMATION; SIMULTANEOUS GENERATION; HYDROXYL RADICALS; OXIDATIVE STRESS; TISSUE-INJURY; SUPEROXIDE; ACID; VIVO
Research Fronts: 94-2143 006 (NITRIC-OXIDE SYNTHASE; PEROXYNITRITE DECOMPOSITION; LUNG ALVEOLAR INJURY; FREE - RADICAL CHEMISTRY)
94-3125 001 (INTRACELLULAR IRON; HYDROXYL RADICALS; INHIBITION OF LIPID-PEROXIDATION; OXIDATIVE STRESS; NATURAL...
...ISCHEMIC KIDNEY; INTRACELLULAR CALCIUM ACCUMULATION; TRANSPLANT EVOLUTION)
94-5275 001 (ALDEHYDE PRODUCTS OF LIPID-PEROXIDATION; **BREATH ETHANE** GENERATION DURING CLINICAL TOTAL-BODY IRRADIATION; CCL4 OXIDATION)

11/3,K/30 (Item 30 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
(c) 2002 BIOSIS. All rts. reserv.
10147264 BIOSIS NO.: 199698602182
Cigarette smoking is pro-oxidant in pregnant women regardless of antioxidant nutrient intake.
AUTHOR: Schwarz Kathleen B(a); Cox Jeanne(a); Sharma Savitri; Witter Frank; Clement Liliana; Sehnert Shelley S; Risby Terence H
AUTHOR ADDRESS: (a)Dep. Pediatr., Johns Hopkins Med. Inst., 600 N. Wolfe St., Brady 320, Baltimore, MD 21287-2631**USA
JOURNAL: Journal of Nutritional & Environmental Medicine (Abingdon) 5 (3): p225-234 1995
ISSN: 1359-0847
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English
...ABSTRACT: study was to investigate nutritional and environmental factors which contribute to oxidative stress during pregnancy. **Ethane , a volatile alkane produced during peroxidation of omega-3 fatty acids, was used as a...**
...of oxidative stress. Forty-four inner-city pregnant women were studied to investigate **relationships between breath ethane** , antioxidant nutritional status and the use of drugs, alcohol and/or tobacco. The mean age...
...urine drug screens and three (7%) consumed alcoholic beverages. No

relationship was shown between the **breath ethane** of the whole group and intake of total calories, fat, protein or vitamins A, C, E, carotene or iron. Similarly, there were no correlations between **breath ethane** and serum vitamins A, E, E/total lipids, beta-carotene, selenium, copper or manganese. No effect of drug or alcohol intake on **breath ethane** was noted. In contrast, there was a direct correlation between **breath ethane** and the number of cigarettes smoked per day (r = 0.3805, p = 0.0108). The mean **breath ethane** of smokers (229 +- 29 pmol l-1) was higher than that of the nonsmokers (151...
...pmol l-1, p = 0.0227). In the smokers (but not in the non-smokers) **breath ethane** correlated inversely with serum vitamin C (r = -0.5434, p = 0.0162). No correlation was shown between **breath ethane** and vitamin E intake in smokers, although an inverse correlation was noted in non-smokers...
MISCELLANEOUS TERMS: **BREATH ETHANE** ; ... FREE RADICAL ;

11/3,K/31 (Item 31 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci
(c) 2002 Inst for Sci Info. All rts. reserv.
05051184 Genuine Article#: TM194 No. References: 48
Title: BETA-CAROTENE PREVENTS LIPID-PEROXIDATION AND RED-BLOOD-CELL MEMBRANE-PROTEIN DAMAGE IN EXPERIMENTAL HEPATO CARCINOGENESIS
Author(s): SARKAR A; BISHAYEE A; CHATTERJEE M
Corporate Source: JADAVPUR UNIV,DEPT PHARMACEUT TECHNOL,DIV BIOCHEM,POST BOX 17028/CALCUTTA 700032/W BENGAL/INDIA/; JADAVPUR UNIV,DEPT PHARMACEUT TECHNOL,DIV BIOCHEM/CALCUTTA 700032/W BENGAL/INDIA/
Journal: CANCER BIOCHEMISTRY BIOPHYSICS, 1995, V15, N2, P111-125
ISSN: 0305-7232
Language: ENGLISH Document Type: ARTICLE (Abstract Available)
...Abstract: and microsomal glucose-6-phosphatase activities was observed, whereas the activities of the oxygen-derived free - radical scavenger enzymes, like cytosolic catalase and superoxide dismutase, were shown to increase significantly at the...
...Research Fronts: CUNICULI IN-VITRO; DISSEMINATED INFECTION; CRUISE SHIP)
94-5275 001 (ALDEHYDE PRODUCTS OF LIPID-PEROXIDATION; **BREATH ETHANE** GENERATION DURING CLINICAL TOTAL-BODY IRRADIATION; CCL4 OXIDATION)

11/3,K/32 (Item 32 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci
(c) 2002 Inst for Sci Info. All rts. reserv.
05036900 Genuine Article#: TK863 No. References: 37
Title: NATURE OF THE CARDIOMYOCYTE INJURY-INDUCED BY LIPID HYDROPEROXIDES
Author(s): THOLLON C; ILIOU JP; CAMBARRAT C; ROBIN F; VILAINE JP
Corporate Source: INST RECH SERVIER,DIV PATHOL CARDIA & VASC,11 MOULINEAUX/F-92150 SURESNES//FRANCE/
Journal: CARDIOVASCULAR RESEARCH, 1995, V30, N5 (NOV), P648-655
ISSN: 0008-6363
Language: ENGLISH Document Type: ARTICLE (Abstract Available)
...Abstract: potential (A9) and isometric tension were recorded with standard microelectrodes and a transducer, respectively. The reactive oxygen species (ROS) scavenging properties of tested compounds were determined using a cell-free model of lipid...
...Research Fronts: RADICALS; PROTECTION OF THE ISCHEMIC RAT-HEART)
94-5275 001 (ALDEHYDE PRODUCTS OF LIPID-PEROXIDATION; **BREATH ETHANE** GENERATION DURING CLINICAL TOTAL-BODY IRRADIATION; CCL4 OXIDATION)

11/3,K/33 (Item 33 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci
(c) 2002 Inst for Sci Info. All rts. reserv.
04767176 Genuine Article#: UG016 No. References: 38
Title: GENERATION OF FREE - RADICALS BY CR(IV) FROM LIPID HYDROPEROXIDES AND ITS INHIBITION BY CHELATORS
Author(s): MAO Y; ZANG LY; SHI XL
Corporate Source: NCI,LAB EXPT PATHOL,NIH,BLDG 41,ROOM C301/BETHESDA//MD/20892; NCI,LAB EXPT PATHOL,NIH/BETHESDA//MD/20892; MONTANA STATE UNIV,DEPT CHEM/BOZEMAN//MT/59717
Journal: BIOCHEMISTRY AND MOLECULAR BIOLOGY INTERNATIONAL, 1995, V36, N2 (JUN), P327-337
ISSN: 1039-9712
Language: ENGLISH Document Type: ARTICLE (Abstract Available)
Title: GENERATION OF FREE - RADICALS BY CR(IV) FROM LIPID HYDROPEROXIDES AND ITS INHIBITION BY CHELATORS
Abstract: The generation of free radicals by Cr(IV) from lipid hydroperoxides was investigated by ESR spin trapping. The spin trap...
...phenanthroline > diethylenetriaminepentaacetic acid. The results suggest the possible role of Cr(IV) and its mediated free radical generation from lipid hydroperoxides in the mechanism of Cr(VI) carcinogenesis.
...Research Fronts: SPIN-TRAPPING; SUPEROXIDE ADDUCT FORMATION; ENHANCED GENERATION)
94-5275 001 (ALDEHYDE PRODUCTS OF LIPID-PEROXIDATION; **BREATH ETHANE** GENERATION DURING CLINICAL TOTAL-BODY IRRADIATION; CCL4 OXIDATION)

11/3,K/34 (Item 34 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci
(c) 2002 Inst for Sci Info. All rts. reserv.
04005849 Genuine Article#: QX804 No. References: 28
Title: CIGARETTE-SMOKING AND **ETHANE** EXHALATION IN HUMANS
Author(s): HABIB MP; CLEMENTS NC; GAREWAL HS
Corporate Source: DEPT VET AFFAIRS MED CTR,PULM SECT 111A,3601 S 6TH AVE/TUCSON//AZ/85723; VET AFFAIRS MED CTR,PULM MED SECT/TUCSON//AZ/00000; VET AFFAIRS MED CTR,HEMATOL ONCOL SECT/TUCSON//AZ/00000; UNIV ARIZONA,DIV RESP SCI/TUCSON//AZ/85724
Journal: AMERICAN JOURNAL OF RESPIRATORY AND CRITICAL CARE MEDICINE, 1995 , V151, N5 (MAY), P1368-1372
ISSN: 1073-449X
Language: ENGLISH Document Type: ARTICLE (Abstract Available)
Abstract: The time course of exhaled **ethane** gas was determined in the alveolar expirate of healthy, fasting smokers and nonsmokers after smoking a cigarette. Baseline **ethane** was measured by gas chromatography and corrected for background **ethane** after a 2-min washout using purified air. **Ethane** was measured immediately after smoking and hourly thereafter. **Ethane** was highest immediately after smoking, reflecting **ethane** in cigarette smoke. An exponential decline of **ethane** in smokers returned **ethane** to baseline within 3 h. **Ethane** in nonsmokers also peaked immediately after smoking but returned to baseline by 1 h. **Ethane** from smokers, measured 3 h after the last cigarette, was compared with **ethane** from healthy ex-smokers and nonsmokers. Mean (+/- SEM) baseline **ethane** in smokers was 2.90 +/- 0.52 pmol/min/kg, 1.55 +/- 0.36 pmol...
...ex-smokers and 1.11 +/- 0.26 pmol/min/kg in nonsmokers ($p < 0.05$). **Ethane** in two smokers measured before and after a week of oral beta

carotene supplementation (60 mg/d) fell by 80 and 35%. We conclude that cigarette smokers have increased baseline **ethane** in exhaled **breath** compared with non-smokers. Trials with antioxidant agents are warranted to assess their ability to reduce expired **ethane** levels.
...Research Fronts: IN HUMAN NEUTROPHILS; ACTIVATION OF ALVEOLAR MACROPHAGES; CHRONIC GRANULOMATOUS-DISEASE; ANTIOXIDANT THERAPY)
93-1474 001 (REACTIVE OXYGEN SPECIES ; MODULATION OF HUMAN POLYMORPHONUCLEAR NEUTROPHIL FUNCTION; RESPIRATORY BURST RESPONSE; TREATED RAT MACROPHAGES)...

11/3,K/39 (Item 39 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
(c) 2002 BIOSIS. All rts. reserv.
09128760 BIOSIS NO.: 199497137130
Evidence for free radical -mediated lipid peroxidation at reperfusion of human orthotopic liver transplants.
AUTHOR: Risby Terence H; Maley Warren; Scott Raymond P W; Bulkley Gregory B ; Kazui Manabu; Sehnert Shelley S; Schwarz Kathleen B; Potter James; Mezey Esteban; Klein Andrew S; Colombani Paul; Fair Jeffrey; Merritt William T; Beattie Charles; et al
AUTHOR ADDRESS: Inq.: James F. Burdick, Dep. Surg., Johns Hopkins Hosp., Harvey 611, 600 N. Wolfe St., Baltimore, MD**USA
JOURNAL: Surgery (St Louis) 115 (1):p94-101 1994
ISSN: 0039-6060
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English
Evidence for free radical -mediated lipid peroxidation at reperfusion of human orthotopic liver transplants.
...ABSTRACT: of evidence that this mechanism is operative in human beings, we measured the generation of **ethane** into the exhaled **breath** as a biomarker of free radical -mediated lipid peroxidation in human liver transplantation. Methods. A novel technique that increased the previous standard of sensitivity 100-fold was used to measure picomole quantities of **ethane** in exhaled **breath** of eight recipients undergoing human orthotopic liver transplantation. Results. **Ethane** production correlated closely with the specific events of liver transplantation including the initial reperfusion of the allografts. In every case a twofold to threefold increase in **ethane** production was superimposed on a stable baseline immediately after reestablishment of portal vein bloodflow through the donor liver. Conclusions. **Ethane** production was interpreted as evidence of hepatic lipid peroxidation, presumably mediated by toxic metabolites of...
...point at which lipid peroxidation occurred and may facilitate quantification of lipid peroxidation mediated by free radicals and other toxic oxygen metabolites during operation.
MISCELLANEOUS TERMS: FREE RADICAL PRODUCTION...

11/3,K/40 (Item 40 from file: 73)
DIALOG(R)File 73:EMBASE
(c) 2002 Elsevier Science B.V. All rts. reserv.
05943455 EMBASE No: 1994349392
Effect of diabetes, insulin, and glucose load on lipid peroxidation in the rat
Habib M.P.; Dickerson F.D.; Mooradian A.D.
Pulmonary Section, Veterans Affairs Medical Center,Tucson, AZ 85723

United States
Metabolism: Clinical and Experimental (METAB. CLIN. EXP.) (United States) 1994, 43/11 (1442-1445)
CODEN: METAA ISSN: 0026-0495
DOCUMENT TYPE: Journal; Article
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH
...and rats made acutely hyperglycemic by intraperitoneal dextrose administration was determined by measurement of exhaled **ethane** during exposure in vivo to **ethane** -free air (EFA). Diabetic rats demonstrated increased **ethane** in the expired **breath** while **breath**ing EFA (5.82 +/- 0.56 pmol/min/100 g) compared with control rats (4.02 +/- 0.23 pmol/min/100 g). Insulin treatment of diabetic rats attenuated the **ethane** produced (4.88 +/- 0.23 pmol/min/100 g). Acute hyperglycemia increased exhaled **ethane** to levels higher than those seen in diabetic rats (9.87 +/- 0.98 pmol/min/100 g). Saline injected intraperitoneally to control rats produced **ethane** levels similar to those of untreated nondiabetic controls (4.11 +/- 0.52 pmol/min/100 g). Chronic uncontrolled hyperglycemia and acute hyperglycemia are associated with increased in vivo **ethane** production.
DRUG DESCRIPTORS: free radical ; oxygen radical

11/3,K/41 (Item 41 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci
(c) 2002 Inst for Sci Info. All rts. reserv.
03557298 Genuine Article#: PM721 No. References: 47
Title: SWELLING, ACIDOSIS, AND IRREVERSIBLE DAMAGE OF GLIAL-CELLS FROM EXPOSURE TO ARACHIDONIC-ACID IN-VITRO
Author(s): STAUB F; WINKLER A; PETERS J; KEMPSKI O; KACHEL V; BAETHMANN A
Corporate Source: KLINIKUM GROSSHADERN,INST CHIRURG FORSCH,MARCHIONINISTR 15/D-81366 MUNICH//GERMANY/; UNIV MUNICH,INST SURG RES/W-8000 MUNICH//GERMANY/; UNIV MAINZ,INST NEUROSURG PATHOPHYSIOL/W-6500 MAINZ//GERMANY/; MAX PLANCK INST BIOCHEM/W-8033 MARTINSRIED//GERMANY/
Journal: JOURNAL OF CEREBRAL BLOOD FLOW AND METABOLISM, 1994, V14, N6 (NOV) , P1030-1039
ISSN: 0271-678X
Language: ENGLISH Document Type: ARTICLE (Abstract Available)
...Abstract: might be enhanced by a concurrently evolving intracellular acidosis, stimulating the formation of oxygen-derived free radicals and lipid peroxidation.
...Research Fronts: ANTIHYPERTENSIVE DRUGS; REGULATION OF INTRACELLULAR PH)
92-3107 002 (IRON-DEPENDENT LIPID-PEROXIDATION; NEURONAL INJURY; REACTIVE OXYGEN SPECIES ; CORTICAL FOCAL ISCHEMIA; RABBIT SPINAL-CORD; 21-AMINOSTEROID INHIBITOR)
92-1171 001 (COLONIC SHORT-CHAIN FATTY-ACIDS; **METHANE BREATH** TESTS; CORNSTARCH FERMENTATION; SOLITARY RECTAL ULCER; ABSORPTION OF WHEAT-STARCH)
92-2154 001 (GERBIL HIPPOCAMPUS...

11/3,K/45 (Item 45 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci
(c) 2002 Inst for Sci Info. All rts. reserv.
01671485 Genuine Article#: HR032 No. References: 29
Title: GENERAL-ANESTHESIA AND EXHALED **BREATH** HYDROGEN-PEROXIDE
Author(s): WILSON WC; SWETLAND JF; BENUMOF JL; LABORDE P; TAYLOR R
Corporate Source: UNIV CALIF SAN DIEGO,MED CTR,DEPT ANESTHESIOL,MAIL CODE 8770,225 DICKINSON ST/SAN DIEGO//CA/92103; UNIV CALIF SAN DIEGO,MED CTR,DEPT ANESTHESIOL,MAIL CODE 8770,225 DICKINSON ST/SAN

DIEGO//CA/92103
Journal: ANESTHESIOLOGY, 1992, V76, N5 (MAY), P703-710
Language: ENGLISH Document Type: ARTICLE (Abstract Available)
Abstract: To study the role of free radical formation on the impairment of pulmonary function seen with general anesthesia, we measured the hydrogen...
...Identifiers--PULMONARY VASCULAR REACTIVITY; RESPIRATORY -DISTRESS SYNDROME; INDUCED LUNG INJURY; LIPID-PEROXIDATION; **ETHANE** PRODUCTION; EXPIRED **BREATH** ; RADICALS; SUPEROXIDE; EXPOSURE; CELLS

11/3,K/47 (Item 47 from file: 73)
DIALOG(R)File 73:EMBASE

04280634 EMBASE No: 1990163190
Correlation of free oxygen radical-induced lipid peroxidation with outcome in very low birth weight infants
Pitkanen O.M.; Hallman M.; Andersson S.M.
Children's Hospital, Stenbackinkatu 11, 00290 Helsinki Finland
Journal of Pediatrics (J. PEDIATR.) (United States) 1990, 116/5 (760-764)
CODEN: JOPDA ISSN: 0022-3476
DOCUMENT TYPE: Journal; Article
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH
Lipid peroxidation was measured in 19 very low birth weight infants with respiratory distress syndrome by quantitating **ethane** and pentane in expired air during the first 5 days postnatally. Despite high levels of inspiratory oxygen, the **ethane** and pentane output was low within the first 24 hours; thereafter it increased up to...
...5, lipid peroxidation and fractional inspiratory oxygen showed a significant correlation. Maximal amounts of expired **ethane** and pentane were significantly higher for patients with a poor outcome (five death, six cases...
DRUG DESCRIPTORS:
* free radical ; *oxygen radical; *ampicillin--drug therapy--dt; ***ethane** --pharmacology--pd; *netilmicin--drug therapy--dt; *oxygen--pharmacology...

11/3,K/48 (Item 48 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

06678452 BIOSIS NO.: 000087120629
ETHANE PRODUCTION RATES AND MINUTE VENTILATION
AUTHOR: HABIB M P; KATZ M A
AUTHOR ADDRESS: ROUTE 111 A, VA MED. CENT., TUCSON, ARIZ. 85723.
JOURNAL: J APPL PHYSIOL 66 (3). 1989. 1264-1267. 1989
FULL JOURNAL NAME: Journal of Applied Physiology
CODEN: JAPHE
RECORD TYPE: Abstract
LANGUAGE: ENGLISH
ABSTRACT: **Ethane** quantitated in the expired alveolar gas is a noninvasive measure of free radical activity. This method has been criticized for lack of control of minute ventilation (.ovrhdot.VE) in spontaneously **breath**ing animals, although **ethane** , which is poorly soluble in tissues, should not be affected by changes in .ovrhdot.VE. We measured **ethane** elimination rates in six strain 13 guinea pigs (GP13) during spontaneous room air **breath**ing and in six room air **breath**ing , pentobarbital-anesthetized, tracheostomized, externally warmed,

mechanically ventilated GP13s at various levels of .ovrhdot.VE. In...
...r = 0.72, P < 0.005). However, weight0.75/.ovrhdot.VE did not correlate with **ethane** elimination rates (r = 0.12, not significant). The mean (.+-. SD) **ethane** elimination rates in the spontaneously **breath**ing animals was 3.15 .+-. 0.96 pmol .cntdot. min-1 .cntdot. 100 g-1 and...
...3.11 .+-. 1.37) over a range of .ovrhdot.VE's. These data demonstrate that **ethane** elimination rates are not affected by changes in .ovrhdot.VE and are unaffected by pentobarbital...
DESCRIPTORS: GUINEA-PIG LIPID PEROXIDATION FREE RADICALS

11/3,K/49 (Item 49 from file: 155)
DIALOG(R)File 155:MEDLINE(R)
06575476 89213784 PMID: 2708248
Source of **ethane** in expirate of rats ventilated with 100% oxygen.
Habib MP; Katz MA
Benjamin W. Zweifach Microcirculation Laboratories, Tucson Veterans Administration Medical Center, Arizona.
Journal of applied physiology (UNITED STATES) Mar 1989, 66 (3) p1268-72, ISSN 8750-7587 Journal Code: HEG
Languages: ENGLISH
Document type: Journal Article
Record type: Completed

Ethane in alveolar expirate may have its source in organs other than the lung and be transported to the lung for elimination. We determined **ethane** production rates in rats (group I) ventilated with hydrocarbon-free air (HFA) before and after exsanguination. To determine whether the lung is the source of increased **ethane** production during exposure to 100% O2, we measured **ethane** in the expirate of nine exsanguinated, Sprague-Dawley rats (group II) mechanically ventilated with HFA and then with 100% O2. In all nine animals, **ethane** elimination rates on 100% O2 increased compared with HFA values. In five of the nine rats, HFA ventilation was reinstated after O2 (group III). In all five, **ethane** elimination fell with HFA ventilation compared with the value on 100%. Six rats with circulation intact were ventilated with HFA and then 100% O2 (group IV). **Ethane** production rate for group IV animals **breath**ing HFA was not significantly different from the exsanguinated animals in group II while ventilated with HFA. The mean increase in **ethane** production for the group II animals was not significantly different from the group IV animals...
... were incubated in saline at 37 degrees C with FeCl2 (10 mg) added to enhance free radical formation. Paired lung samples from the same rat were incubated with either HFA or 100% O2. Headspace gas was analyzed chromatographically for **ethane** at 120 min. Mean **ethane** in the O2 samples was higher than for HFA. Rat lung tissue is the main source of increased **ethane** production during 100% O2 exposure.
Descriptors: **Ethane**--metabolism--ME; *Oxygen--toxicity--TO; *Respiration

File 5:Biosis Previews(R) 1969-2002/Mar W2
File 34:SciSearch(R) Cited Ref Sci 1990-2002/Mar W3
File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec
File 50:CAB Abstracts 1972-2002/Feb
File 73:EMBASE 1974-2002/Mar W1
File 155:MEDLINE(R) 1966-2002/Mar W2
File 399:CA SEARCH(R) 1967-2002/UD=13611
File 144:Pascal 1973-2002/Mar W2
File 76:Life Sciences Collection 1982-2002/Jan
File 103:Energy SciTec 1974-2001/Sep B2

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File 161:Occ.Saf.& Hth. 1973-1998/Q3
File 156:ToxFile 1966-2002/Feb W4
File 317:Chemical Safety NewsBase 1981-2002/Jan
File   8:Ei Compendex(R) 1970-2002/Mar W2
File  44:Aquatic Sci&Fish Abs 1978-2002/Jan
File  94:JICST-EPlus 1985-2002/Jan W4
File   6:NTIS 1964-2002/Mar W4
File  35:Dissertation Abs Online 1861-2002/Mar
File  98:General Sci Abs/Full-Text 1984-2002/Jan
File  40:Enviroline(R) 1975-2002/Mar
File  41:Pollution Abs 1970-2002/Jan
File  68:Env.Bib. 1974-2002/Feb
File 143:Biol. & Agric. Index 1983-2002/Jan
File  77:Conference Papers Index 1973-2002/Jan
File 110:WasteInfo 1974-2001/Jun
Set     Items   Description
S1       4979   (METHANE OR ETHANE OR PROPANE OR ACETYLENE) (S)(INTRAVENOU-
            S? OR RESPIRAT? OR BREATH???)
S2     348543   REACTIVE()OXYGEN()SPECIES OR FREE()RADICAL? ?
S3        208   S1 AND S2
S4         88   RD (unique items)
S5       2469   (METHANE OR ETHANE OR PROPANE OR ACETYLENE)(5N)(INTRAVENOU-
            S? OR RESPIRAT? OR BREATH???)
S6         49   S5 AND S4
S7         88   S4 AND S3
S8         88   RD (unique items)
S9        127   S3 AND S5
S10        52   RD (unique items)
S11        52   Sort S10/ALL/PY,D
************
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5/6,K/1     (Item 1 from file: 442)
DIALOG(R)File 442:(c)2002 Amer Med Assn -FARS/DARS apply. All rts. reserv.
00114176
Antioxidant Capacity and Oxygen Radical Diseases in the Preterm Newborn (
ARTICLE)
 2000;
  LINE COUNT: 00368
... of these 4 disorders has a complex and poorly understood pathogenesis,
in addition to prematurity, reactive oxygen species have been
suggested as playing crucial roles.1/ In the presence of hypoxia-ischemia,
hypoxanthine...
... body include cellular and extracellular enzymes (eg, superoxide
dismutase, catalase, glutathione reductase, and peroxidase) and free
 radical quenchers (eg, glutathione, vitamins C and E, and carotenoids in
addition to serum albumin and...
... TRAP) assay did not differ significantly between preterm and full-term
infants.14/ Biomarkers of reactive oxygen species damage have shown a
negative correlation with gestational age. Thus, higher levels ...
Similarly, higher levels of carbonylated proteins were found in preterm
infants.19,20/
      Biomarkers of reactive oxygen species have been studied in
preterm infants in relation to possible oxygen radical diseases. Schlenzig
et...
...with IVH greater than grade 2 did not.
```

Pitkanen et al21/ measured exhaled pentane and **ethane** daily for the first 5 postnatal days from 19 very low-birth-weight infants with respiratory distress syndrome. Eight infants with `good outcome' were extubated by 7 days and survived without...
... 6 to 12 months of age. Eleven had `poor outcome,' including 5 who died of respiratory failure or IVH and 6 survivors with BPD of whom 3 had ROP. Both maximal **ethane** and maximal pentane levels were higher in the poor outcome group. Varsila et al17/ measured...
... had higher plasma levels of allantoin (produced by the nonenzymatic oxidation of uric acid by reactive oxygen species) and higher ratios of allantoin to urate than neonates who were free of BPD.22...
...Saugstad OD. Hypoxanthine as an indicator of hypoxia: its role in health and disease through free radical production. Pediatr Res.1988;23:143-150.
... Abdel-Rahman AM, Rosenberg AA. Prevention of... JHN, van Zoeren-Grobben D, Schrijver J , Speek AJ, Poorthuis BJHM, Berger HM. The total free radical trapping ability of cord blood plasma in preterm and term babies. Pediatr Res. 1989;26...
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Varsila E, Pitkanen O, Hallman M, Andersson S. Immaturity-dependent free radical activity in premature infants. Pediatr Res. 1994;36:55-59.
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5/6,K/2 (Item 2 from file: 442)
DIALOG(R)File 442:(c)2002 Amer Med Assn -FARS/DARS apply. All rts. reserv.
00050512
Oxygen-Derived Free Radicals (Article)
1991;
...with transfer of only one electron (/e.sup.-/), resulting in the release of highly reactive free radical intermediates. This presents an immediate and severe threat to the integrity of the cell. With...
... most mammalian cells, and which, under normal physiologic conditions, protect the cell from attack by free radicals . Under certain conditions, the release of free radicals may overpower the protective mechanisms, resulting in cellular damage. This is particularly seen in pathologic...
... prior to transplantation, stress ulceration of the foregut, acute renal and hepatic failure, pancreatitis, adult respiratory distress syndrome, ulcerative colitis, and certain inflammatory disorders. Increased oxygen radical generation or a compromised...
...formation, atherosclerosis, and emphysema. /1-5/ This essay will examine the following questions: What are free radicals ? How are they produced? What effect do they have on cells? How can they be...
... they be measured? What are the practical benefits of this knowledge for the surgeon? A free radical is defined as any atom or molecule in a particular state with one unpaired electron...
... and copper, or chelates of these metals. /7,9,10/ Another in the generation of free radicals is the combination of hydrogen peroxide and chloride ions catalyzed by myeloperoxidase to produce hypochlorous...
... agent hypochlorite. /11/ The hypochlorite ion acts as a substrate for

the generation of hydroxyl- free radicals and is able to oxidize adenine nucleotides, cytochromes, and iron-sulfur proteins rapidly and irreversibly...
... cells are rich in xanthine oxidase, which places the endothelial cells at particular risk against free radical damage. /15/ Endothelial damage can lead to microvascular stasis and further ischemia in the reperfusion...
... role in protection against bacterial invasion, leukocytes have the potential to release large amounts of free radicals . It is believed that much of the endothelial and cellular damage in ischemia/reperfusion is...
...in the extracellular medium potentials the lysis of endothelial cells in vitro. /16/ Furthermore, most free radicals do not travel far from their site of formation. The mean effective radius of hydroxyl...
... 17/ Wound neutrophils have a higher ability to release reduced nicotinamide-adenine dinucleotide oxidase-dependent free radicals than circulating electrolytes, /18/ and less ischemic bowel damage occurs in neutropenic animals /19,20...
... cell, protect against oxidative injury. /14,21,22/ A variety of mechanisms exist that scavenge free radicals as they are formed. They include superoxide dismutase, which converts superoxide to hydrogen peroxide and...oxidase system acts as a sink by removing oxygen that might otherwise be converted to free radicals . /23/ Exogenous substances, such as mannitol, allopurinol, dimethysulfoxide, folic acid, and pterin aldehyde can also be used to counteract the free radical effect by inhibiting the action of xanthine oxidase or other oxidating enzymes. The calcium-channel...
...may exert its beneficial effects by this mechanisms. /25/ Because of the difficulty in measuring free radicals directly, most studies have relied on indirect means, such as measuring the decrease in cellular...
... studies have been criticized because there is no proof that damage is indeed due to free radicals . In tissues such as the liver it is highly unlikely that the endogenous glutathione peroxidase...
... techniques and may simply be a measure of cellular damage and not specific markers of free radical damage. In other experiments, infusions of chemicals releasing free radicals have resulted in tissue damage, which can be prevented by scavengers. (29) Luminol-dependent chemiluminescence...
... returns to the ground state. (24) Electron-spin resonance spectroscopy has also been used. **Measuring ethane and pentane, formed is small quantities during lipid peroxidation, is another form of detection of free radicals** . As more experimental evidence mounts, it is becoming clear that free radical release is responsible for damage during many pathologic states. Despite all this knowledge concerning free radicals , few practical benefits have emerged. Allopurinol and glutathione are added to allograft preservation fluids. Most efforts are directed at the cause of damage, with a resultant decrease of free radical release. These efforts include decreased duration of ischemia, cooling, maintenance of good nutrition, and adequate...
... not be long before patients with tissue ischemia can be protected by specific treatments against free radicals , resulting in improved tissue viability and survival.

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5/6,K/3 (Item 1 from file: 457)

00118324 (USE FORMAT 7 OR 9 FOR FULLTEXT)
TITLE: Volatile organic compounds in **breath** as markers of lung cancer: a cross-sectional study
June 5, 1999
WORD COUNT: 2202
TEXT:
... pentamethyl
Heptane, 2-methyl
Decane
Benzene, propyl-
Undecane
Cyclopentane, methyl-
Cyclopropane, 1-methyl-2-pentyl-
Methane , trichlorofluoro-
Benzene
Benzene, 1,2,4-trimethyl-
1,3-butadiene, 2-methyl- (isoprene)
Octane, 3...
...Chemical identification was tentative. Listed in descending order of contribution to model.
Table 2: 22 **breath** VOC picked out by discriminant analysis*
Discussion The 22 **breath** VOCs that discriminated between the...
...to explain our finding is not known. Part of the explanation may involve increased oxygen free - radical activity in cancerous cells.*RF 12* *RF 13* *RF 14* *RF 15* Oxygen free radicals degrade cell membranes by lipid peroxidation and convert these polyunsaturated fatty acids to volatile alkanes...lung cancer. Second, alkanes in the **breath** are consistent with a possible mechanism via oxygen free - radical activity in cancer. Third, cross- validation tests of the predictive model correctly

classified the majority...
CITED REFERENCES:
...Free Radic Res 1994; 20: 333-37.
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5/6,K/4 (Item 2 from file: 457)
DIALOG(R)File 457:(c) 2000 The Lancet, Ltd. All rts. reserv.
00096015 (USE FORMAT 7 OR 9 FOR FULLTEXT)
TITLE: Commentary: Schizophrenia and the gut, again
1993 Nov 6
WORD COUNT: 415
TEXT:
... with schizophrenia *RF 3 * will thus be received with only cautious enthusiasm.
Alkanes, such as **ethane** and pentane, in the **breath** may originate from sites of cellular injury when oxygen free radicals peroxidate membrane lipids *RF 4 *, and are raised in inflammatory conditions such as rheumatoid arthritis...
...through interference with dopamine Beta -hydroxylase *RF 3 *. Phillips et al *RF 3 *sampled alveolar **breath** from 37 volunteer doctors and nurses, 26 psychiatric inpatients with diagnoses other than schizophrenia, and...

5/6,K/5 (Item 1 from file: 370)
DIALOG(R)File 370:(c) 1999 AAAS. All rts. reserv.
00500492 (USE 9 FOR FULLTEXT)
Oxidative Stress, Caloric Restriction, and Aging
Publication Date: 07-05-1996 (960705)
Word Count: 4011
...Text: oxidative stress is indicated by an exponential increase in the exhalation of alkanes such as **ethane** and n-pentane, products of ROM-induced peroxidation of membrane lipids (B13) (B14) . There is...
...oxidase activity that occurs during aging would tend to increase the autoxidizability of the upstream respiratory components, thereby elevating the rate of O.inf(2).sup((mid-dot) -) and H.inf...
References and Notes:
...J. F., McCord, J. M., Ed. by Paulet, A.C., Douste-Blazy, L., Paoletti, R., Free Radicals , Lipoproteins, and Membrane Lipids, 1990, 203212 Plenum, New York18. Sohal, R. S., Free Radical Biol. Med., 14 1993, 583...29. Ku, H.-H., Brunk, U. T., Sohal, R. S., Free Radical Biol. Med., 15 1993, 621...
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File 332:Material Safety Data Sheets - 2002/Q1
File 442:AMA Journals 1982-2002/Mar B3
File 624:McGraw-Hill Publications 1985-2002/Mar 13

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File 307:DOSE
File  99:Wilson Appl. Sci & Tech Abs 1983-2002/Jan
File 369:New Scientist 1994-2002/Mar W1
File 457:The Lancet 1986-2000/Oct W1
File 370:Science 1996-1999/Jul W3
File 444:New England Journal of Med. 1985-2002/Mar W2
Set     Items   Description
S1        995   (METHANE OR ETHANE OR PROPANE OR ACETYLENE) (S)(INTRAVENOU-
             S? OR RESPIRAT? OR BREATH???)
S2       2854   REACTIVE()OXYGEN()SPECIES OR FREE()RADICAL? ?
S3          0   S1(5N)S2 AND S1(S)S2
S4          5   S1 AND S2
S5          5   RD (unique items)
*************
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